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VOLUME 51 NUMBER 3

ARCHIVES
OF
DERMATOLOGY AND SYPHILOLOGY

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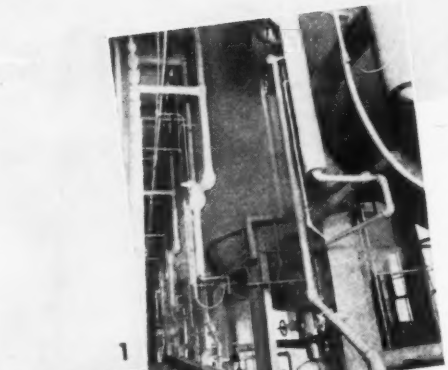

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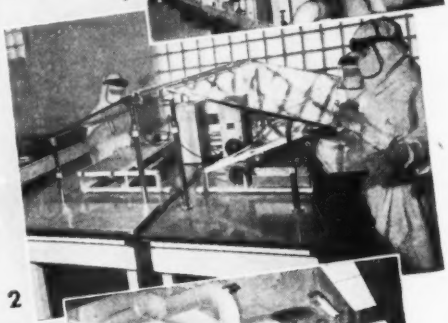

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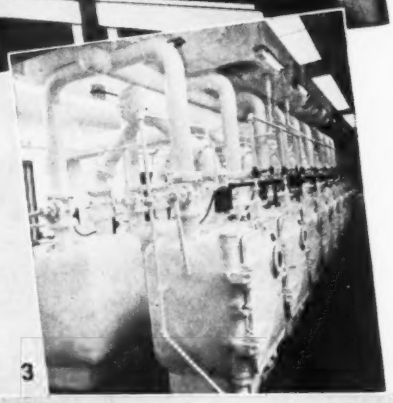

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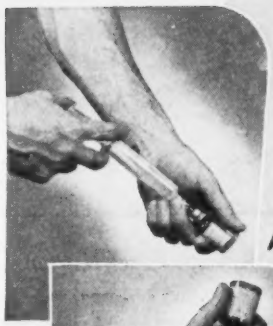

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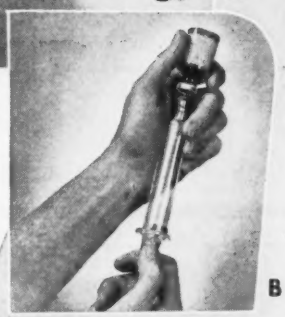

B

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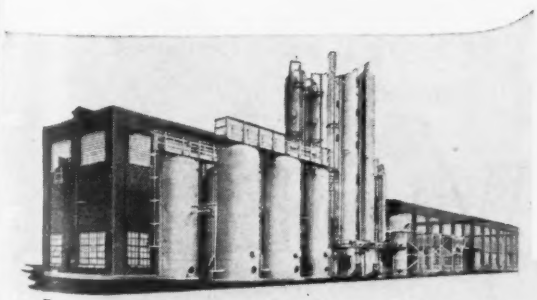

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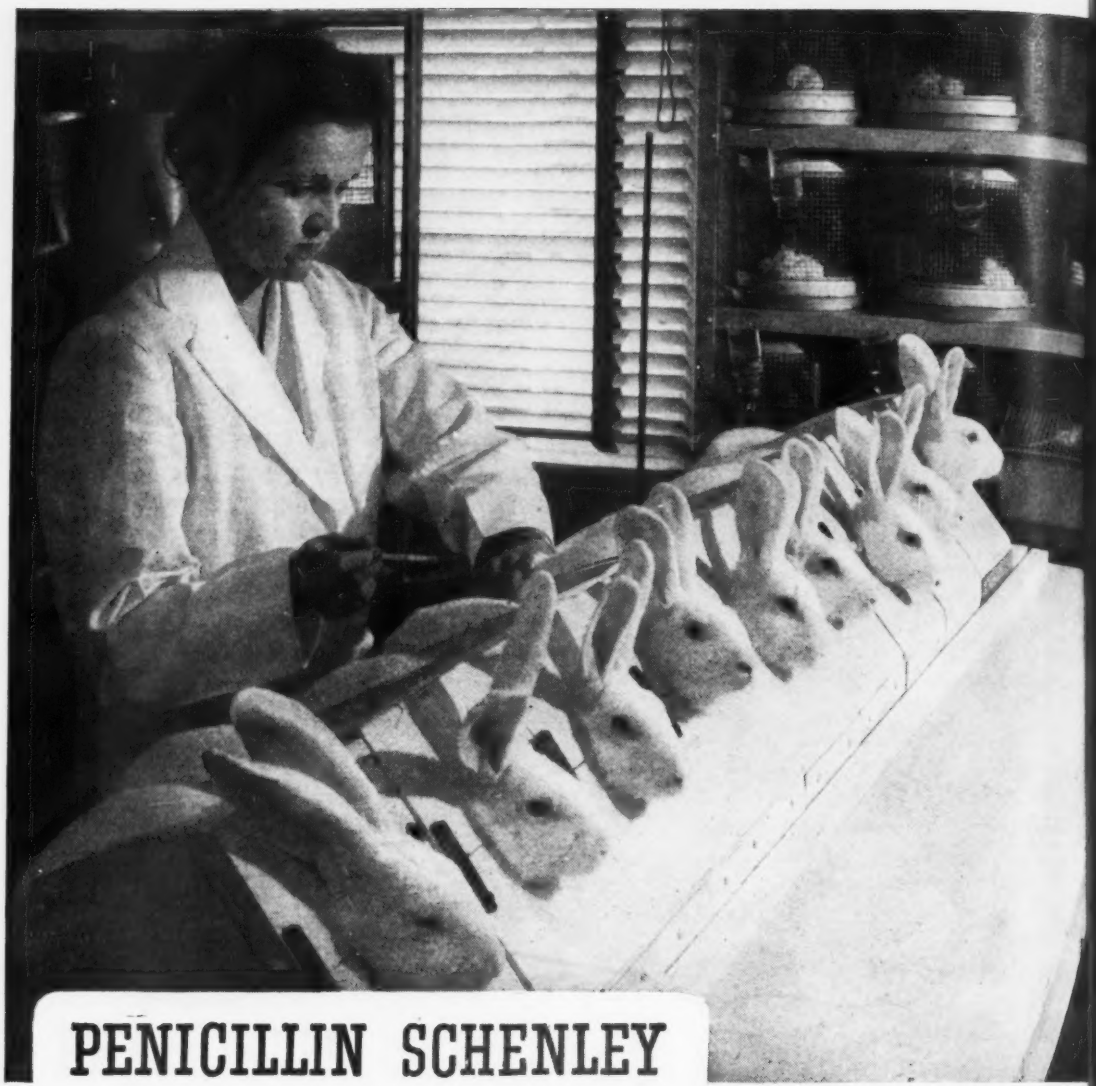

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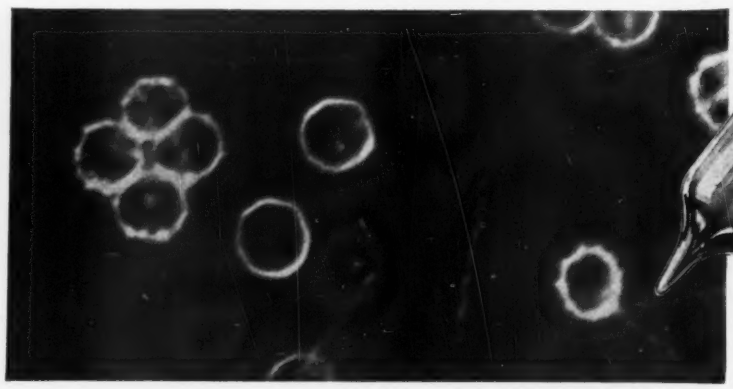
1. *early institution of treatment*
2. *adequate dosage*



Treponema pallidum: unretouched photomicrograph of fresh human chancre exudate, under darkfield illumination; some red blood cells apparent.

The statistical studies of Padget* have been of considerable value in establishing the need for treating primary syphilis during the seronegative stage. Under the best conditions obtainable, the syphilitic patient has less chance of being cured when treatment is delayed until the blood becomes seropositive than he has if therapy is instituted while it still is seronegative. Furthermore, the incidence of neurosyphilis has been found to be more than twice as high in seropositive primary syphilis cases than in any other.

Inadequate dosage of Neoarsphenamine will only lead to progression and extension of the syphilitic lesions. Low dosage will neither eradicate the infection nor permit the host to develop natural resistance to it. The incidence of infectious recurrence will be reduced to a minimum if treatment is continuous rather than intermittent, and provided that during the selected course of treatment, the patient at no time is without the influence of either Neoarsphenamine or Bismuth.

The first three months of treatment are most important in preventing future relapse. Negative serologic reactions do not necessarily indicate noninfectiousness; hence, patients should not be permitted to relax precautions or suspend therapy until the proper number of alternating, uninterrupted courses of Neoarsphenamine Merck and Bismuth Subsalicylate have been given.

**Padget, P., Long-term results in treatment of early syphilis, J. A. M. A. 116:7-11, 1941.*

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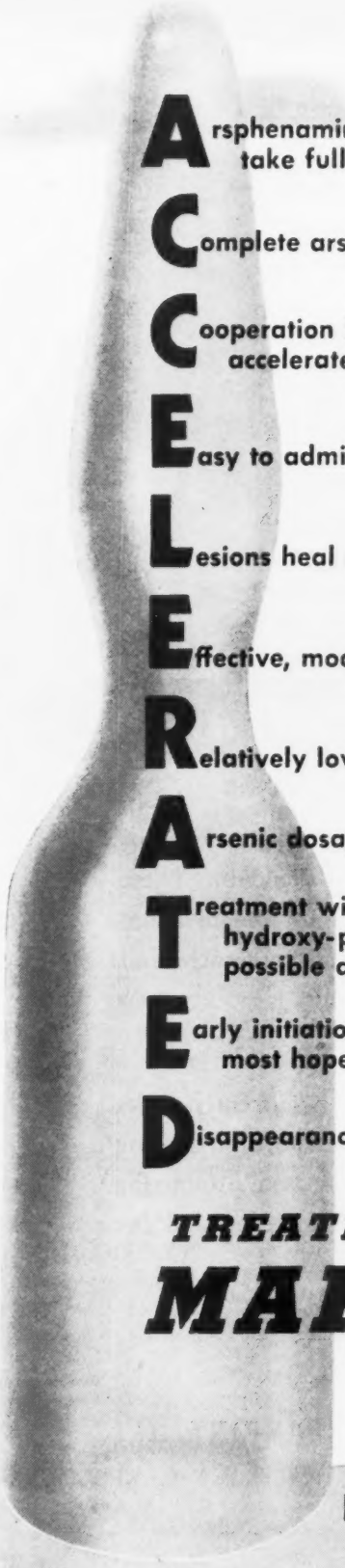

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VOLUME 51 MARCH 1945 NUMBER 3

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CUTANEOUS DISEASES IN THE TROPICS

A CLINICAL STUDY BASED ON OBSERVATIONS IN MALAYA

PAUL FASAL, M.D.

SAN FRANCISCO

Cutaneous manifestations seen in Malays, Indians, Chinese and Caucasians in the four Federated Malay States and on the island of Penang during the years 1939 to 1941 form the basis of this paper.

Most of the Malays lived in rural areas. Their main occupation was agriculture and fishing. The Chinese were predominant in towns as shopkeepers and traders. In rural areas they worked as laborers in tin mines. The Indians were mostly immigrants from southern India; the majority were Tamils, but there were also Telegus and Uriahs. Tamils constituted the main body of laborers in the rubber industry. The white persons examined were government officers and their families, managers of rubber estates, supervisors of tin dredges and police and custom officers in the Federated Malay States.

The cutaneous manifestations will be presented in three large groups according to their causation: external causes, nutritional deficiencies and infection with animal and plant organisms. Tumors of the skin are included in the first group because of the possible connection between external irritation and cancer of the skin. Cutaneous lesions of uncertain causation are discussed after the discussion of the third group.

EXTERNAL CAUSES

Dermatitis solaris was seen only in white persons, the natives being protected by the pigmentation of the skin. In white newcomers severe forms of actinic dermatitis were observed, especially in blond persons.

Perspiration was the main factor producing irritation of the skin in Caucasians. Owing to the heat and the high humidity, perspiration was constant and heavy. As a result, few white persons escaped cutaneous irritation, and there were even persons who had to leave Malaya because they were completely incapacitated by it. The manifestations of this irritation varied from miliaria and sudamina to extensive dermatitis which in the beginning showed follicular predilection. Often severe and extensive cheiropompholyx was observed, not rarely without any trace of fungous infection. The term "prickly heat" or "lichen tropicus" is commonly used for dermatitis due to perspiration. Sometimes the dhobie (washerman) was blamed for such an eruption, which was then called dhobie itch. No cases of dhobie itch were seen in this survey in Malaya which could have been caused by the dye used by the washerman to mark the laundry, as observed by Livingood, Rogers and Fitz-Hugh.[1] That this dye does not cause most of the cases of dhobie itch in Malaya is evident from the fact that the eruption was seen in persons whose laundry was washed at home and therefore not marked by any dye. Most lesions classified as dhobie itch were nothing else than fungous infections such as erythrasma or eczema marginatum.

In natives, external irritation due to perspiration was not so common as in white persons. In Tamil coolies a follicular dermatitis often resembling sudamina was observed. It occurred mostly on the trunk and shoulders and rarely caused discomfort (fig. 1).

Contact dermatitis was caused by a great variety of agents. It was often necessary to go into all the details of the daily life in order to find the cause. Among the large number of cases observed in white persons the following 2 may serve as examples. A refractory dermatitis on the legs of a white woman could be traced to an antimosquito spray, aimed at the legs only. A circumscribed dermatitis on the right buttock of a white man was caused by the lacquer of his wallet, worn in the right hip pocket.

I was attached to the Institute for Medical Research in Kuala Lumpur from 1939 to 1941. Most of the observations recorded in this paper were made during a survey of filariasis in the state of Perak and on the island of Penang and a nutritional survey of the four Federated Malay States. Further clinical observations were made in Kuala Lumpur at the General Hospital, the Bungsar Hospital, the city clinic for venereal diseases and the city jail and on patients seen in consultation at the Institute for Medical Research.

1. Livingood, C. S.; Rogers, A. M., and Fitz-Hugh, T., Jr.: Dhobie Mark Dermatitis, J. A. M. A. **123**:23 (Sept. 4) 1943.

In natives living in the jungle, dermatitis venenata was widespread. The main responsible agent in Malaya is the rengas tree, belonging to the family Anacardiaceae. This jungle tree exudes a sap called by the Malays *getal rengas*, which is extremely irritating to the skin. It causes an acute vesicular dermatitis with edema (fig. 2) and with general symptoms if the lesions are extensive. It occurred most frequently in Malays but also in Tamils, Chinese and Caucasians. My Malay assistants told me of fatal cases they had seen. Some of the patients I had the opportunity to observe had extremely severe and extensive involvement, but all recovered. As prophylaxis against rengas dermatitis, some natives annointed their bodies with sesame oil (*minyak bijan*) before cutting wood in the jungle.

Fig. 1.—Papular dermatitis caused by perspiration on the shoulder of a Tamil boy.

Another jungle tree the sap of which caused severe dermatitis was the upas tree (Antiaris toxicaria), called *pohun ipoh*. Several cases of vesicular dermatitis due to contact with the fresh sap of this tree were seen in Malays and Tamils. This sap was used by the Sakais, the Malay aborigines, to poison the darts of their blowpipes. Usually the dart poison consisted of a mixture of the sap of the so-called false upas tree (Strychnos ovalifolia), called *akar ipoh* in Malay, which has a curare-like action, and the sap of the aforementioned *pohun ipoh*. Some tribes also added animal substances like cobra venom and the stings of scorpions and the heads of centipedes (Gimlette[2]).

Injuries by the spine of poisonous fish like *ikan sembilang* (catfish) and *ikan pari* (sting ray) caused acute inflammation and severe swelling of the affected part with central necrosis at the site of the injury. General symptoms of poisoning were common. Stings by scorpions, centipedes and termites and bites by leeches did not produce any characteristic lesions of the skin except for occasional central necrosis at the site of the trauma and various degrees of inflammatory reaction. Contact with certain caterpillars caused a papular dermatitis usually located on the neck and shoulders.

The sap of the mango fruit (Mangifera indica), *mangga* in Malay, often caused a dermatitis frequently seen in Indians and Malays and localized mainly at both angles of the mouth. These lesions had to be differentiated from simple perlèche, from angular stomatitis seen in association with vitamin B complex deficiency, and from yaws, all of which were observed in the native population. Other fruits causing irritation, especially in the angles of the mouth, were *binjai* (Mangifera caesia), *bachang* (Mangifera foetida, horse mango), *nanas* (pineapple), *betek* (Carica papaya) and *durian* (Durio zibethinus, *pokoh durian*), a most delicious tropical fruit with a terrible smell, considered by the natives to be an efficient aphrodisiac.

Not uncommon in natives, especially in Tamils, were the sharply demarcated punched-out lesions of the soles and on the flexor surfaces of the toes, named by Castellani "keratoma plantare sulcatum" (fig. 3) and given no specific cause. From personal observations in Malaya I feel that these lesions are of external origin, since only those areas of the toes and soles are affected which come into intimate contact with the ground and since they were found only in natives who did not wear shoes and had to walk and stand alternately on hot soil (mainly gravel) and in water. Yaws had to be excluded, as crab yaws frequently produced similar lesions. For most of the patients the Wassermann reaction was negative, and in patients with a positive Wassermann reaction no therapeutic effects were achieved with arsenicals. Improvement of the caloric value of the diet and high doses of vitamins also did not have any effect on keratoma plantare sulcatum.

Medicines, either taken internally or applied externally, frequently caused lesions of the skin.

2. Gimlette, J. D.: A Dictionary of Malayan Medicine, edited and compiled by H. W. Thompson, London, Oxford University Press, 1939.

Fig. 2.—Vesicular dermatitis from contact with the sap of the rengas tree on the forehead and cheek of a Malay boy. Note the edema of the eye.

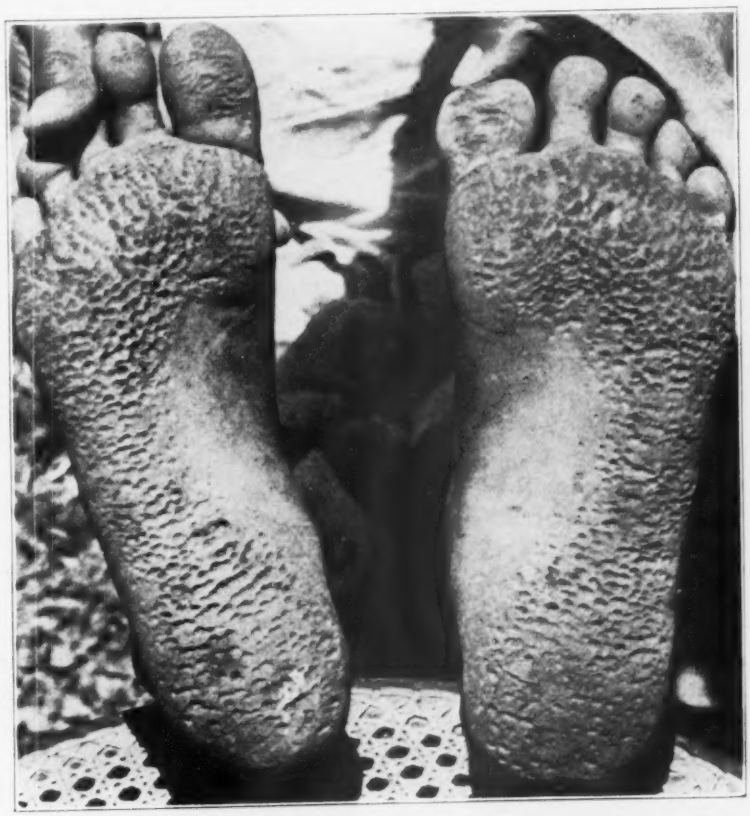

Fig. 3.—Keratoma plantare sulcatum on a Tamil man.

A large percentage of the native population went for advice to their own "doctors." These native "doctors" are not to be confused with natives who took a regular course of medical training and became fully educated and privileged medical practitioners. The Malay native "doctor" was called *bomor*. He had no real medical training and often inherited the title from his father. He worked largely with incantations, charms and amulets and used prescriptions such as burnt tiger whiskers in coconut oil or a combination prepared from the wing bone of a goose, the horn of a wild goat, the spine of the sea porcupine and the tusk of a toothed whale (Gimlette [3]). A "love potion" examined at the Institute for Medical Research in Kuala Lumpur [4] was found to be a mixture of chopped rat hairs and wing cases of beetles, grasshoppers and cockroaches, together with bone ash and bamboo hair. However, some of the *bomors* had a great knowledge of the action of certain herbs and were also excellent bone setters.

The local application of fire was one of the favorite methods used by Malays, Chinese and Tamils alike to cure disease by expelling evil spirits from their victims. During the survey of rubber estates and rural schools many children showed scars of undetermined origin and some of them fresh circumscribed ulcers (fig. 4) which did not correspond to any of the cutaneous lesions seen in the tropics. Eventually it was found that these ulcers and scars were the effects of therapy applied by medicine men or relatives using glowing knives or burning wooden sticks.

Most of the natives were eager to take medicine, *ubat* in Malay, for all kinds of real and imaginary ailments. Some of the medicines taken by the natives were the same as those used in the United States and caused the same symptoms and signs of intolerance. Laxatives containing phenolphthalein and sedatives containing barbiturates were responsible for many drug eruptions, often of fixed character. They were frequently seen in Chinese and Indians, giving to their brown or yellow skins most unusual color combinations. Arsenic was contained in various tonics much liked by the native population. Externally arsenic was applied, for instance, for yaws (*puru* in Malay) and tinea imbricata (*kurap losong*); internally it was one of the popular poisons for homicide and it was also used to combat an evil spirit called *polong* (Gimlette [2]). Manifestations of arsenical intoxication or intolerance ranging from mild erythemas and dermatitis to extensive exfoliative dermatitis and erythroderma were observed in Chinese, Tamils and Malays. The diagnosis was confirmed by estimation of the arsenic content of the urine, hair and nails. Another cause for arsenical dermatitis was antisyphilitic therapy, given on a large scale owing to the high incidence of syphilis in densely populated towns, like Singapore, Kuala Lumpur, Ipoh and Penang. Mercury applied locally, as in a mercurial ointment, caused a dermatitis of much greater severity in Malaya than it does in a moderate climate. Severe mercurial dermatitis was seen in several Chinese prostitutes who took mercury-containing pills internally over long periods to achieve sterility.

By white persons and natives alike, quinine was the drug most frequently taken, as malaria was prevalent in all parts of Malaya. Urticaria, purpura, erythemas and exanthems due to quinine were seen. Bullous eruptions observed in several persons, sometimes pemphigus-like and sometimes similar to erythema exudativum multiforme, involving also the mucous membranes of the mouth, could be traced to quinine.

Considered a panacea by the natives of all races everywhere in Malaya was a cleverly advertised ointment, called "tiger balm." Its use was enormous. Colorful posters and advertisements in Chinese, Indian and Malay praised "tiger balm" as a sure cure for practically every known ailment and complaint. It acted as a counter-irritant and contained several irritating agents, like turpentine, camphor and menthol. There was no part of the body to which "tiger balm" was not applied, and it was found advisable in cases of dermatitis of obscure origin and unusual localization first to exclude the application of this ointment. Another source of dermatitis medicamentosa due to internal use as well as external application was the various aphrodisiacs, used with great faith by the natives, especially Chinese and Malays. Cantharidin was an ever-present ingrediant.

Pigment changes played an important part among the observed cutaneous manifestations. In white persons berlock dermatitis occurred not infrequently owing to the common use of cologne water in the tropics plus the intense tropical sunshine.

Depigmentations were common among natives and easily observed because of their darker skin. Their causation was manifold. Syphilis, yaws and leprosy were responsible in many instances. Fungi were another cause. Vitiligo in natives was mostly restricted to a few symmetric circumscribed depigmented spots on the hands and

3. Gimlette, J. D.: Malay Poisons and Charm Cures, ed. 2, London, J. & A. Churchill, Ltd., 1929.

4. Kingsbury, A. N.: Annual Report of the Institute for Medical Research for the Year 1939, Kuala Lumpur, 1940.

feet, but occasionally it involved large areas of the body.

New growths formed a large field in tropical dermatology. Among benign tumors, fibromas, lipomas and similar growths were frequently encountered in all races. Keloid, spontaneous as well as post-traumatic, was much more often seen in natives than in Caucasians. It often reached large dimensions and in its spontaneous form frequently assumed the shape of a crab's claw.

Malignant tumors of the skin and mucous membranes were often seen and in extremely advanced stages, because natives usually waited for their native doctors to fail before consulting physicians. Of all the carcinomas observed, most were in the mouth or on the external genitalia. The frequent occurrence of carcinoma

Fig. 4.—*A*, a Chinese girl with multiple lesions due to "therapeutic" burns; *B* and *C*, detailed pictures of the lesions, showing a variety of artefacts.

of the buccal membranes, mainly in Tamils, can be explained by the constant irritation from the chewing of the betel nut. An explanation for the frequent affection of the genital region might be the relatively common local application of irritating aphrodisiacs. Epitheliomas of the face

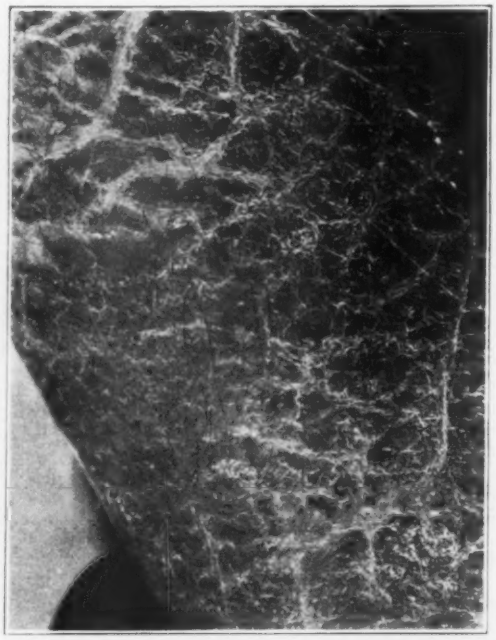

Fig. 5.—Ichthyotic appearance of the skin of a Tamil boy with vitamin A deficiency.

were not seen in natives, but many were observed in Australians, who formed a part of the white population. On their blond, freckled skins keratoses and epitheliomas easily developed under the influence of intense sunlight.

NUTRITIONAL DEFICIENCIES

Cutaneous manifestations due to nutritional deficiencies were frequently observed (Fasal[5]). General subnutrition, due either to lack of food or to debilitating diseases and faulty absorption, caused dryness of the skin, wrinkling of the superficial layers and sometimes subcutaneous edema. Vitamin A deficiency, widespread in Tamils and less frequent in Malays, also led to dryness of the skin, reminding one of ichthyosis (fig. 5). Some authors introduced new terms to describe this clinical picture, such as "crazy pavement" skin. If more advanced, vitamin A deficiency led to formation of follicular hyperkeratotic papules of various shapes, ranging from filiform processes to large flat papules (fig. 6), which gave this manifestation the name of phrynoderma, or toad skin. Angular stomatitis, to be differentiated from irritation due to fruits, as previously mentioned, was observed in Tamils and Malays as a manifestation of deficiency of the vitamin B complex. Beriberi, common among Chinese, did not lead to any specific cutaneous changes except edema. Only in isolated cases was pellagra seen among Malays and Tamils.

INFECTION WITH ANIMAL AND PLANT ORGANISMS

Virus diseases with cutaneous manifestations were well represented in Malaya. The exanthem in dengue was not characteristic. Occasionally there was an initial erythema on the first day, but nearly always a morbilliform to scarlatiniform rash appeared between the third and fifth day. This rash subsided quickly, occasionally leaving slight scaling.

Chickenpox was observed infrequently. Smallpox was seen rarely in Malaya, as the health authorities strictly enforced vaccination and immigration authorities saw to it that only vaccinated persons entered the country. Herpes simplex and zoster and molluscum contagiosum were not uncommon.

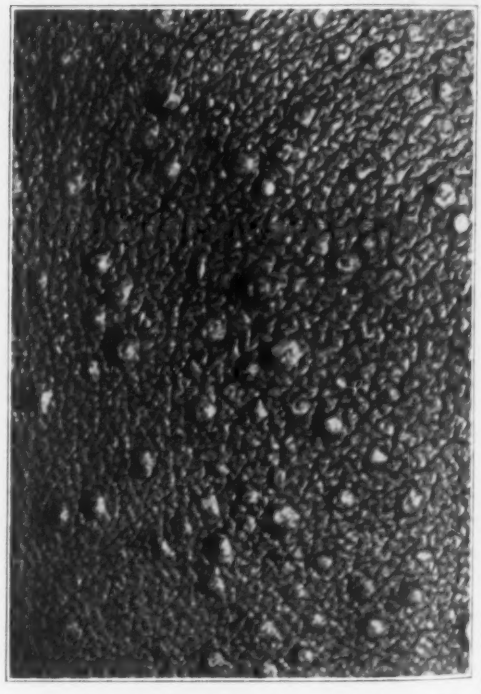

Fig. 6.—Phrynoderma; large flat hyperkeratotic papules on the elbow of a Tamil boy.

Tsutsugamushi fever (Japanese river fever), identical with scrub typhus (Lewthwaite and

5. Fasal, P.: Clinical Manifestations of Vitamin Deficiencies as Observed in the Federated Malay States, Arch. Dermat. & Syph. **50**:160 (Sept.) 1944.

Savoor [6]), is endemic in Malaya. It is a typhus-like fever, caused by a rickettsia and in Malaya transmitted to human beings by the mite Trombicula akamushi. It was observed in Caucasians and in Tamils working on oil palm estates. The initial lesion on the site of the mite bite showed central necrosis surrounded by an area of inflammation (fig. 7). There was decided swelling of the regional lymph nodes. On the twelfth to the fifteenth day after the bite a confluent macular exanthem of a bluish red color appeared accompanied with fever and conjunctivitis. A similar macular exanthem on trunk and extremities was observed in persons with rat bite fever (sodoku), caused by Spirillum minus and transmitted through rats.

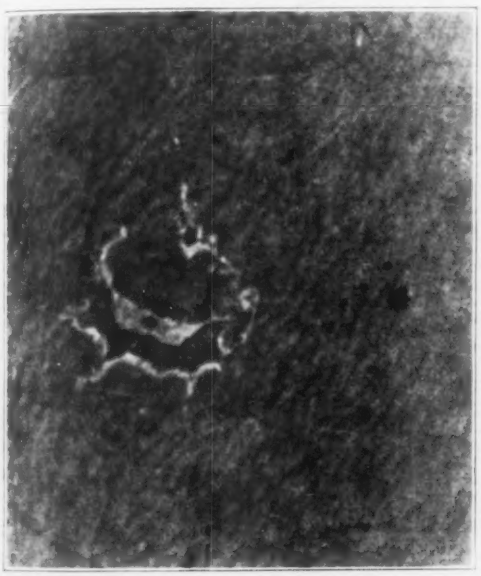

Fig. 7.—Tsutsugamushi fever (Japanese river fever); site of the bite of an infected mite (Trombicula akamushi) in a white man (thigh).

Of diseases affecting the genitals, venereal lymphogranuloma played an important role. In men, after an often negligible papule or herpes-like primary lesion on the penis, it led to swelling of the inguinal nodes with following suppuration and fistulation. In women chronic ulcerative processes around the rectum were seen. In both sexes, predominantly in females, rectal stricture was an end result. Frei's antigen was used with great success as a diagnostic test. Venereal lymphogranuloma was observed mostly in Chinese, often combined with syphilis and chancroid. The last was common among Caucasians and Chinese and less frequent among Tamils and Malays. Often the discrepancy between the small size of the genital ulcer and the severity of the bubo was remarkable. Autoinoculation proved helpful in establishing the diagnosis, especially in mixed infections of venereal lymphogranuloma, syphilis and chancroid.

Another genital or perigenital lesion seen occasionally in Tamils and Chinese was granuloma inguinale, which in all cases observed affected the inguinal region, forming large serpiginous ulcers with irregular borders and spreading peripherally. Donovan bodies were found in scrapings. There was no involvement of lymph nodes.

Syphilis was manifested in Malaya in every stage and form with the exception of neurosyphilis, which in Malaya, as in other tropical countries, was rare among natives. This low incidence of neurosyphilis may be due to the high incidence of malaria in the native population, which provided a natural fever therapy. The frequency of early syphilis with lesions rich in spirochetes created a much higher rate of extragenital infections than in Western countries. Several cases of extragenital chancres in white persons (medical personnel) were observed, and it was worth while to keep the possibility of syphilis in mind whenever seeing an atypical non-healing ulcer. Many cases of congenital syphilis existed, especially among Chinese and Tamils, and bullous syphilis in the newborn was common. Yaws, spread by flies and by direct contact, was frequently encountered in certain rural areas of Malaya, mostly among Malays and to a lesser extent also among Tamils. It was more frequent in children than in adults. The lesions were characteristic, consisting of rupia-like or raspberry-like formations which disappeared rapidly after intravenous administration of mapharsen or neoarsphenamine. No lesions of mucous membranes were seen.

Cutaneous infections with staphylococci and streptococci were common. Furunculosis in white persons became extensive and severe. Caucasians suffering from furunculosis should not consider living in the tropics. In natives, furunculosis was rare. It is often not realized that the average native of the poor class, although living under primitive conditions, is much cleaner than his white social equivalent. Tamils, Malays and Chinese bathe frequently and are skilful in using small containers in place of showers to throw water over their bodies.

Impetigo was seen but not to any great extent, and although on some rubber estates more than 40 per cent of the children suffered from scabies and pediculosis capitis there was only rarely secondary infection or eczematization. Pedicu-

6. Lewthwaite, R., and Savoor, S. R.: Typhus Group of Diseases in Malaya, Brit. J. Exper. Path. 17:448 (Dec.) 1936.

losis pubis was infrequently seen. Pediculosis corporis was observed occasionally but only among natives living in cities.

Tuberculosis of the skin was seen among the Chinese in large cities, where the people, living in crowded quarters, also showed a high percentage of pulmonary tuberculosis. Tuberculous infection of the skin did not always lead to typical lupus vulgaris with the characteristic nodules or papulonecrotic tuberculids but produced often bizarre ulcers on the face, around the rectum or on the genitalia.

Leprosy was observed in Malaya, not infrequently in Chinese, more rarely in Malays and Tamils and only occasionally in white persons. More than 2,000 lepers were segregated in a colony in Sungei Buloh, about 30 miles (48 kilometers) from Kuala Lumpur, where all stages and forms of the disease could be seen. Strict examination of immigrants, especially from China, put an end to the arrival of new lepers. However, an occasional person with leprosy whose disease had apparently escaped detection by local health authorities could be encountered. Neural leprosy was more prevalent than the lepromatous form. While as a rule it is easy to recognize lepromatous leprosy, with its leonine facies or large isolated lepromas, or well developed neural leprosy, it is sometimes difficult to recognize early leprotic lesions. A depigmented area on one cheek, which could have been easily mistaken for a fungous infection or a seborrheic dermatitis, was the only lesion found in several Chinese and Malay children suffering from early neural leprosy.

Not so severe in their complications as leprosy but of great importance owing to their great spread in all races are the various fungous infections of the skin. Dermatophytosis affecting the feet, known in the United States as "athlete's foot," is called "Singapore foot" in Malaya. It is common among Caucasians, not so frequent among Chinese and Indian town dwellers and rare among Malays and rural Chinese and Indians, who usually do not wear shoes.

In natives, especially Tamils and Malays, the most common form of fungous infection was tinea (pityriasis) versicolor. On their dark skin the affected areas appeared as lighter-colored plaques. The Malays called this disease *panau* and divided it into different varieties by adding some descriptive word, like *panau bunga* (bunga flower). Sometimes the word panau was also used by the natives for leprosy, which can easily be understood, as the differential diagnosis between a patch of pityriasis versicolor on the face of a child and an early lesion of neural leprosy can be difficult, especially if the anesthesia is not well developed or is completely absent. The lesions of pityriasis versicolor were commonly localized on the face, chest and abdomen. They were lighter in color than the surrounding skin and did not itch. Occasionally there was some scaliness. The lesions sometimes coalesced to form large areas with irregular borders. Microscopically, the fungi were identical with Microsporon furfur. Eczema marginatum was seen frequently in Caucasians and in natives. In white persons it was usually localized in the inguinal region, often called "dhobie itch" and attributed to irritation or infection through the laundry, as mentioned earlier. In natives it was usually found in the axillas or on the flanks and trunk. Trichophyton inguinale could be demonstrated in some cases.

Tinea imbricata was observed occasionally in Malays and Tamils but much less frequently than the other two mentioned fungous infections. Analogous to the "Singapore foot" was the "Singapore ear," a fungous infection of the external auditory meatus, a frequent and annoying disease. It was only rarely seen in natives. Occasionally piedra, manifesting itself as small hard nodosities on the hairs of the scalp, was seen in Caucasians, Malays and Tamils. There was no discomfort in this disease. Microscopically and in cultures Trichosporon giganteum was found.

There were observed in Tamils and Malays severe ulcerations of the feet leading to changes in the bones which clinically gave the typical picture of mycetoma (Madura foot); but unfortunately there was at that time, owing to external circumstances, no possibility to substantiate the clinical diagnosis by biopsy and examination for fungi.

The so-called tropical ulcer, localized mostly on the legs, was widespread among natives, mainly Tamils. Bacillus fusiformis and Spirochaeta schaudinni could be demonstrated. In the observed cases it appeared that the ulcers were secondary to some injury, like insect bites, bruises and similar traumas, or aggravated forms of pyoderma. No cases of oriental sore (leishmaniasis) or kala-azar of the skin were encountered.

Among the most impressive clinical manifestations in Malaya was elephantiasis due to filarial infection. While infections with Wucheria bancrofti were seen in immigrants from India, the only form of filariasis endemic in Malaya is caused by Microfilaria malayi. The clinical manifestations seen in filarial infections were in the order of appearance: inguinal adenitis, periodic lymphangitis with fever and, finally, elephantiasis. In contrast to Wucheria bancrofti which causes

elephantiasis not only of the lower extremities but of the scrotum and genital region, Microfilaria malayi causes an elephantiasis confined to the lower extremities. Many instances were seen in Malays, fewer in Tamils and only isolated instances among the Chinese. Elephantiasis starts with swelling of the dorsum of the foot and ankle. Then as the swelling increases, the skin becomes thicker until finally the classic picture is reached when walking is greatly if not totally impeded, the skin shows lymphoceles and verrucous lesions and the elasticity is completely lost. Microfilaria malayi, the adult stage of which is responsible for these symptoms and which shows a nocturnal periodicity, is transmitted by Mansonia longipalpis, a mosquito breeding in swampy jungle and flying by night. Therefore, filarial elephantiasis in Malaya was confined to Malays who tended their rice fields or fished in swampy jungle in the early morning hours or to Malays, Tamils and Chinese who tapped rubber in the early morning hours on estates bordering on large swamps.

DISEASES OF MISCELLANEOUS ORIGINS

Malaria, the most widespread disease in Malaya, does not have specific manifestations of the skin. However, it is frequently accompanied with certain cutaneous lesions. Herpes febrilis, sometimes extensive and severe, was seen often. Herpes zoster was not common in persons with malaria. Urticaria, purpura, erythemas and exanthems observed in many white persons and natives suffering from malaria were due to a large extent to quinine medication. However, urticaria and exanthems were observed in unmedicated persons with malaria and were regarded as toxic manifestations of malaria itself.

Some cutaneous diseases common in nontropical countries were encountered not at all or only rarely in Malaya. Erythema exudativum multiforme was seen neither in natives nor in white persons. The incidence of psoriasis among natives was very low; it was observed only in isolated cases in Malays and Tamils, while the incidence in Chinese was slightly higher. Exudative or atopic eczema was not seen in natives. Circumscribed neurodermatitis was observed, mainly in Chinese. Dermatitis herpetiformis was not seen, while several cases of pemphigus vulgaris were encountered. Lichen planus was seen occasionally.

SUMMARY

A clinical study was made of lesions of the skin in natives and in white persons in Malaya.

The most common causative factors for the cutaneous manifestations were external irritation, nutritional deficiencies and infection with animal and plant organisms.

It was found important to exclude routinely both syphilis and leprosy before progressing further in diagnosing diseases of the skin in the tropics.

Of external causes for cutaneous manifestations, perspiration led among white persons (prickly heat). Among natives, dermatitis from contact with poisonous trees (rengas tree) ranked first. Dermatitis medicamentosa due to external or internal medication was common (quinine, arsenic). Keratoma plantare sulcatum, seen in Tamils, was apparently due to the local action of hot gravel and water. Ulcers were caused by syphilis (often extragenital), chancroid, venereal lymphogranuloma, inguinal granuloma, tuberculosis, leprosy, cancer, artefacts and animal bites (tsutsugamushi fever and rat bite fever). Ulcus tropicum, common among natives, started apparently from an insect bite or other trauma and was maintained by secondary infection. Exanthems were seen from dengue, tsutsugamushi fever and rat bite fever.

Vitamin A deficiency was responsible for the frequently observed follicular hyperkeratosis (phrynoderma) and for many cases of ichthyotic skin. Vitamin B complex deficiency caused angular stomatitis, which had to be differentiated from yaws, fungous infection and irritation from certain fruits.

In white persons fungi caused dermatophytosis of the feet and eczema marginatum. In natives, tinea versicolor was common.

Cancers of the skin in natives were localized frequently in the genital and perigenital regions.

PENICILLIN IN DERMATOLOGIC THERAPY

REPORT OF RESULTS IN ONE HUNDRED CASES

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AND
LIEUTENANT RICHARD O. PFAFF (MC), U.S.N.R.

The use of penicillin in treatment of diseases of the skin has heretofore been curtailed by the scarcity of the drug. With its increased production during the past year, it is now available for use in treating diseases other than the severe generalized infections for which it was formerly reserved. The drug being relatively new and its toxic and irritating properties not completely determined, studies were instituted to determine the therapeutic value of the drug in certain selected groups of cutaneous diseases as well as the irritating or sensitizing properties of the substance itself.

In dermatologic therapy, there are two methods of administering penicillin: (1) local administration in the form of solutions and ointments and (2) intramuscular injection. To keep our studies as simple as possible, we selected a penicillin ointment for use locally and an aqueous solution of the sodium salt for intramuscular injection.

Since to our knowledge no definite strength or dosage has been established for penicillin ointment we selected at random the dose of 100,000 Florey (Oxford) units to 1 ounce (30 Gm.) of ointment base. The sodium salt of commercial penicillin as supplied to the armed forces was used. In the course of our clinical studies it was found that 50,000 units to the ounce of ointment base produced the same therapeutic results as the more concentrated product and was subsequently used in all cases.

Owing to the shortage in the area of the commonly used water-soluble emulsion bases, a mixture of 50 per cent hydrous wool fat and 50 per cent rose water ointment was selected. Because of the rapid deterioration of penicillin, the ointment when made up is kept constantly refrigerated and one batch is not used longer than forty-eight hours.

For intramuscular use, 100,000 units of the powder was dissolved in 15 cc. of sterile distilled water. It was administered in 3 cc. doses every four hours, each dose containing 20,000 units of penicillin.

To determine the irritating qualities of penicillin when applied locally to the skin, 524 patients were selected at random in the hospital and patch tests with the ointment were performed. The following routine was employed: 1. A small amount of the ointment was applied to the volar surface of the right forearm. 2. A small patch of cellophane, ¾ inch (1.9 cm.) square, was placed over this. 3. A piece of adhesive tape 1 inch (2.5 cm.) square was placed over the cellophane. The tests were read in twenty-four, forty-eight and seventy-two hours after application. Of the 524 patients tested, none had a positive reaction at twenty-four and at forty-eight hours and 5 had a positive reaction (a patch of red papuloerythematous pruritic dermatitis) persisting from forty-eight hours to one week, an incidence of 0.95 per cent.

The 5 patients with positive reactions to the patch tests were retested with the ointment base only, and in all cases the reactions were negative. Sensitivity to adhesive tape was ruled out in each case.

This survey indicated that normal skin has a very low degree of local sensitivity to penicillin as compared with the high degree of sensitivity to sulfonamide ointments. Of the 524 patients tested, 5 (0.95 per cent) presented positive reactions.

With this information at hand, the use of the penicillin ointment was instituted in treating patients with selected types of dermatologic diseases. For certain diseases the intramuscular route of administration was desirable. Owing to the large number of pyodermas and other dermatoses with superimposed pyodermas observed in the South Pacific area, the diseases were classified in the following five groups: A. acne vulgaris; B. pyoderma; C. eczema; D. so-called tropical ulcer; E. miscellaneous.

A. ACNE VULGARIS

Acne vulgaris is a much more serious problem in the South Pacific islands than in the United States. Many men with acne vulgaris when sent to the tropics have an almost immediate exacerbation of their eruption. The in-

crease in vasomotor activity, caused by the heat, plus the inadequate toilet facilities are prominent factors in aggravating the eruption. The exposure of the men to dirt and mud for several days at a time without washing changes a quiet papular acne into an acute painful infection with constant drainage and undermining of the lesions and causes the men to become almost useless to their units. The dermatologists in the various Naval hospitals are all in agreement that these patients are permanently unfit for further tropical duty. Often the acne becomes generalized, involving the face, neck, extremities and trunk. Ninety per cent of the patients with acne who are evacuated to rear areas have this generalized type of disease. Scarring is severe, and patients frequently give a history of having had acne eight to ten months. A similar degree of scarring is seen in civil practice in patients who have had the disease five to ten years. Because of the acute nature of these lesions and the extensive pyogenic factors present, 32 selected patients with acute generalized acne vulgaris were chosen for treatment with penicillin. All were given 200,000 units of the drug intramuscularly daily for two days. The local therapy comprising our routine for acne was as follows: (1) daily scrubs with tincture of green soap morning and evening; (2) surgical evacuation of all pustules and cysts daily; (3) ultraviolet irradiation in erythema doses given every other day; (4) application of a lotion containing resorcinol and sulfur at night; (5) injection of staphylococcus vaccine twice a week, beginning with 0.1 cc. and building up the dose by 0.1 cc. until 1 cc. was given. During the treatment with penicillin the vaccine therapy was omitted. Table 2 indicates the effect of 200,000 units of penicillin in 32 cases of acne vulgaris.

Of the 32 patients treated, 1 showed a decided improvement, 11 others were only slightly improved, 19 showed no change and 1 looked worse after the treatment.

With the vigorous local therapy used in this dermatologic service for acne, it is difficult to evaluate the effect of the penicillin, but from the figures obtained and the clinical picture as observed it is believed that the drug is of little value in treatment of acne vulgaris. It may also be stated that in most cases there was a 50 per cent improvement after two weeks' treatment with the routine of local and vaccine therapy as outlined.

TABLE 1.—*Classification of Dermatoses of 100 Patients Treated with Penicillin*

Disease	No. of Patients	Method of Administration	Result
A. Acne vulgaris			
Cystic	18	Intramuscularly	Unsatisfactory
Papulopustular	14	Intramuscularly	Unsatisfactory
B. Pyodermas			
Impetigo contagiosa	11	Ointment locally	Very satisfactory
Recalcitrant eruption	4	Intramuscularly and locally	Satisfactory
Folliculitis	1	Intramuscularly	Unsatisfactory
Folliculitis with phlebitis	1	Intramuscularly	Unsatisfactory
Carbuncle	1	Ointment locally to crater	Satisfactory
Dermatophytosis with streptococcic pyoderma	8	Intramuscularly and locally	Very satisfactory
Herpes zoster with impetigo	1	Ointment locally	Satisfactory
Sycosis barbae	4	Ointment locally	Satisfactory in 3 cases
C. Eczemas			
Dermatophytosis with streptococcic eczema (sensitization)	3	Patient 1, locally Patient 2, locally and 200,500 units intramuscularly Patient 3, locally and 300,000 units intramuscularly	Made worse; sensitive to penicillin Satisfactory Unsatisfactory
Infectious eczematoid dermatitis	4	Ointment locally	Unsatisfactory, 1 case; satisfactory, 3 cases
Occupational eczema with pyoderma	1	Ointment locally	Unsatisfactory; sensitive to penicillin
Eczematoid dermatitis	5	Ointment locally	Unsatisfactory; 2 patients sensitive to penicillin
D. So-called tropical ulcer	20	Ointment locally	Very satisfactory
E. Miscellaneous			
Moniliasis	3	Ointment locally	Satisfactory
Seborrheic dermatitis	1	Ointment locally	Unsatisfactory
Total	100		

TABLE 2.—*Results in Treatment of Acne Vulgaris with Penicillin (200,000 Units)*

Type	Patients Treated, No.	Result: Improved, No.	Result: No Change, No.	Result: Made Worse, No.
Cystic	18	9	8	1
Papulopustular	14	3	11	0

B. PYODERMAS

The pyodermas as a group presented the most promising field for penicillin therapy. Table 3 indicates the type of pyoderma treated and the results obtained.

Impetigo Contagiosa: The severe cases represented those which did not respond to the accepted therapeutic measures employing am-

moniated mercury and sulfonamide ointments, and those which had a secondary reaction to either of these two drugs. Included in this group were the resistant types of impetigo contagiosa sometimes found involving the hairy parts. All patients were treated the following way:

1. Patient shaved daily, using the blade once.
2. All crusts were removed three times daily.
3. All lesions were washed with hydrogen peroxide after decrustation.
4. Penicillin ointment was applied afterward.

The results of this treatment were most gratifying, the infection clearing completely. In several of the cases the eruption had become chronic and had been present from three weeks to three months. With the penicillin ointment all signs of the infection disappeared in three to seven days.

days. The other 2 patients received the ointment only, and no improvement was noted with this management. The decided differences in results obtained with the different routines indicate that it is necessary to use the penicillin intramuscularly as well as locally in treatment of recalcitrant eruptions. A large series of such cases should be studied before the effect of penicillin on these chronic eruptions can be established.

Folliculitis.—In the treatment of the folliculitides, the results with penicillin is questionable. For patients each receiving 400,000 units intramuscularly, the results were not satisfactory. No improvement was evident.

Carbuncle.—One large carbuncle was treated with penicillin ointment after incision and drainage. Within twenty-four hours after the oint-

TABLE 3.—*Results of Treatment of Pyodermas with Penicillin*

Type	No. of Patients	Dose	Result
Impetigo contagiosa	11	Ointment applied 3 times a day	Very satisfactory
Recalcitrant eruptions of hands and feet	4	200,000 units intramuscularly; ointment locally	Satisfactory
Folliculitis	1	200,000 units intramuscularly; ointment locally	Satisfactory
Folliculitis and phlebitis	1	400,000 units intramuscularly	No improvement
Carbuncle	1	Ointment to crater twice daily	Satisfactory
Dermatophytosis with streptococcic pyoderma	8	200,000 units intramuscularly; ointment locally	Very satisfactory
Herpes zoster of face with impetigo	1	Ointment to face 3 times daily	Very satisfactory
Sycosis barbae	4	Ointment to face 2 times daily	Satisfactory
Multiple furunculosis	1	200,000 units intramuscularly	No improvement
Total	32		

The use of penicillin ointment for impetigo is indicated in the following situations: (1) when sensitivity to mercury or sulfonamide compounds exists; (2) when the lesions are resistant to treatment; (3) when a rapid cure is imperative.

Recalcitrant Eruptions. — Recalcitrant eruptions of the hands and feet, including dermatitis repens (Crocker 1888), acrodermatitis perstans (Hallopeau), pustular psoriasis (Barber) and pustular bacterid (Andrews), have long presented a therapeutic problem. Four cases falling into the group were selected for treatment with penicillin. All patients had the typical undermined dermatitis with small superficial abscesses in the corium. The eruption was present on the fingers and feet. Two patients were given 200,000 units of penicillin intramuscularly, and the ointment was applied twice daily after a potassium permanganate (1:10,000 solution) soak. Within forty-eight hours there was improvement in these patients, and the lesions improved progressively until 1 patient was well enough to be discharged to duty in ten days and the other in fourteen

ment was applied to the crater, no apparent pus was evident. The base of the lesion presented clean, healthy granulation tissue. The rate of healing was rapid. It is our belief that the crater filled in completely in less time than normally required for a similar lesion to heal with previously accepted therapeutic measures.

Dermatophytoses with Streptococcic Pyoderma.—Dermatophytosis with superimposed streptococcic pyoderma accounts for a large group of patients seen throughout the South Pacific. Fungous infections comprise 35 per cent of all dermatologic problems encountered in the tropics, and 20 per cent of the patients with such infections present a superimposed streptococcic pyoderma.[1] The pyogenic pockets are usually seen on the soles and toes and not infrequently are accompanied by lymphangitis. These eruptions clear up readily with sulfadiazine ointment and hot wet dressings. Owing to the high degree of streptococcic sensitization, healing must be complete before

1. Cohen, T. M.: Dermatologic Therapy in the Tropics, U. S. Nav. M. Bull. **42**:1119-1123 (May) 1944

the patients are discharged to duty. On early return to duty, if only a small fissure remains at the site of the original infection, a recurrence will invariably result within twenty-four to seventy-two hours. In treating patients with these eruptions we administered 200,000 units of penicillin intramuscularly and applied penicillin ointment to the open lesions. The results were excellent. Here again the lesions healed completely in half the time usually required for a cure. Hemolytic streptococci, usually found in these patients, rank high in the list of organisms known to be sensitive to penicillin, and the therapeutic response to the drug was both rapid and complete. The rate of recurrence after penicillin therapy was greatly reduced. The use of penicillin for such eruptions is indicated.

Herpes Zoster with Impetigo.—One patient with an impetigenized severe herpes zoster involving the supraorbital branch of the fifth cranial nerve responded rapidly to the penicillin ointment. Within twenty-four hours new crusts had ceased appearing, and the lesions cleared rapidly with a minimum of discomfort. The herpes zoster cleared in seven days with roentgen therapy and thiamine hydrochloride by injection.

Sycosis Barbae.—Sycosis barbae is frequently observed in the tropics. Four patients with severe infections, all of more than ten weeks' duration, were treated. Roentgen therapy was given twice weekly, each dose consisting of 80 r. The patients shaved daily. Penicillin ointment was applied twice daily after depilation of the infected hairs. The small number of pustules in the beard within forty-eight hours after the ointment was applied was noteworthy. In 3 patients the condition cleared and they were sent to duty in ten to twenty days after treatment was begun. The rapid sterilization of the infected area assures penicillin an important place in the therapeutic armamentarium of sycosis barbae. In 1 patient an acute vesicular flare-up developed after all pustules had been absent for forty-eight hours, and the use of penicillin had to be discontinued. This patient had previously had a similar reaction to ammoniated mercury ointment and to 5 per cent sulfadiazine ointment. A patch test with the penicillin ointment and the ointment base was performed. The test with penicillin ointment elicited a positive reaction. The results obtained with penicillin in treatment of sycosis barbae can be classified as satisfactory.

C. THE ECZEMAS

In classifying the eczemas or eczematous dermatitides of our patients we have used the following classification (modified from that of Sulzberger and Wolf [2]): (1) eczema (infantile and atopic); (2) contact dermatitis and dermatitis venenata, and (3) nummular eczema. In the Pacific theater the eczematoid eruptions observed belonged mainly to the second group.

The eruptions presenting the greatest problems in treatment fall chiefly in the contact dermatitis or sensitization eczema category. All the factors necessary for the production of these dermatoses are present, each as: (1) physical factors (heat, moisture, trauma); (2) eczematogenous allergens (chemicals, dyes, drugs, petroleum products); (3) primary irritants, and (4) products of micro-organisms. The second and fourth factors are the most important. With complete communities set up, consisting of industrial machine shops, repair units, saw mills, aviation maintenance units, kitchens, sculleries and even truck farms for the growth of fruits and vegetables, all the sensitizing elements seen by the industrial dermatologists are found on these island bases.

The second, and perhaps most important, type of eruption is an eczematoid dermatitis caused by the sensitization of the adjacent skin to the products of micro-organisms produced in a given infection. The responsible organisms may be bacteria, fungi and even viruses. These eruptions, especially those due to sensitization to the products of fungi, have presented our greatest therapeutic problem. Patients with sensitization eczema caused by staphylococci and by streptococci were selected for treatment with penicillin. Three patients with streptococcus sensitization eczema were treated with penicillin ointment; the second patient received in addition 200,000 units intramuscularly, and the third patient received 300,000 units intramuscularly. The patient receiving the ointment had an acute exacerbation of his dermatitis, and the use of penicillin had to be discontinued. The patient receiving 200,000 units and the ointment responded to the treatment and in twenty days was completely clear. This patient was then given exercise (walking about the hospital grounds); within twenty-four hours the eczematoid dermatitis as well as a superimposed lymphangitis recurred, and the patient had to be evacuated to the United States. The third patient after thirty-four days in the hospital had improved but the dermatitis was still present, and this patient also had to be evacuated. Thus in the 3 patients with

2. Sulzberger, M. B., and Wolf, J.: Dermatologic Therapy in General Practice, Chicago, The Year Book Publishers, Inc., 1940.

streptococcic sensitization eczema, the results were not satisfactory.

Infectious Eczematoid Dermatitis.—Four patients with this disease were selected for penicillin therapy. Results were as follows:

Patient	Days of Treatment	Result
1	12	Unsatisfactory
2	15	Satisfactory
3	15	Satisfactory
4	10	Satisfactory

Penicillin ointment was applied twice daily to the involved sites after all crusts and detritus had been removed. Three of the 4 patients responded favorably. Further use of the ointment for this disease is indicated.

Eczematoid Dermatitides.—This group of diseases is composed chiefly of occupational contact dermatitides and contact dermatitis due to drug sensitivity. Five patients were treated with penicillin ointment even though no pyoderma was present. The following tabulation indicates the results:

Patient	Days of Treatment	Result
1	5	Acute exacerbation; penicillin had to be stopped
2	4	Unsatisfactory
3	(120,000 units given intramuscularly)	Acute generalized vesicular dermatitis; penicillin stopped
4	3	Unsatisfactory
5	6	Unsatisfactory

For all 5 patients treated, the results were unsatisfactory. With patients 1 and 3 use of the drug had to be stopped because of a sensitivity to penicillin. In patient 3 an acute generalized erythematovesicular eruption appeared, with fever and toxic symptoms, and it was necessary to discontinue use of the drug after 120,000 units of penicillin had been given intramuscularly. This patient was polysensitive and reacted unfavorably to several drugs, even in extremely low concentrations.

D. SO-CALLED TROPICAL ULCER

So-called tropical ulcer has to be differentiated chiefly from the dermatologic entities tropical ulcer (Aden ulcer or Malabar ulcer) and oriental sore (Aleppo boil). This lesion occurs in 24 per cent of patients presenting pyodermas in the South Pacific area and because of its chronicity is of extreme importance. These ulcers usually begin as a traumatic lesion on the leg, such as an excoriated insect bite, a foliage scratch or a coral cut. Within twenty-four to thirty-six hours a surrounding area of induration and erythema appears, and in another forty-eight hours the center of the lesion sloughs, leaving an irregularly shaped ulcer with a seropurulent discharge. The lesions vary from the size of a split pea to that of a silver dollar and larger. The ulcers are usually painless and cause little discomfort. Smears made from these lesions reveal staphylococci, fusiform bacilli and spirochetes. We did not find Mycobacterium diphtheriae in our series of patients. All had cultural studies before therapy was instituted. It is our opinion that these lesions are low grade pyogenic ulcers and can be treated in several ways successfully, as previously reported by Cohen.[1] The ulcers responded to the following routine: 1. The patient remained in bed with leg elevated. 2. After complete removal of detritus and crusts, warm compresses of potassium permanganate solution (1:15,000) were applied to the ulcers for twenty minutes three times a day. 3. An ointment composed of the following ingredients was applied on a light dressing: sulfathiazole, 5 Gm.; triethanolamine, 10 cc., and water in oil emulsion base, to make 100 Gm.

In all cases complete healing occurred in one to three weeks. It was also found in treatment of a later series of patients that boric acid ointment U. S. P. could be used in place of the 5 per cent sulfathiazole ointment with similar good results. When penicillin became available in the ointment form, a group of 20 patients exhibiting one or more of these ulcers were selected for treatment with penicillin ointment. The routine followed was the same as before except that penicillin ointment was substituted for the sulfathiazole ointment. The results in treatment of these ulcers were remarkable. Within forty-eight hours after the application of penicillin was instituted, exudation from the ulcers had stopped, leaving a clear, healthy granulating base. Within the following forty-eight hours fresh epithelization was apparent. At no time during this healing period was pus noted on the dressings. In all cases the lesions healed rapidly, and the new epithelium was visible from day to day. The healing time for ulcers treated with the penicillin ointment was reduced by 30 per cent over that required with the drugs previously employed. There were no signs of irritation or sensitization to the penicillin observed in any of our 20 patients. The large number of patients sensitive to sulfonamide compounds seen in this area in the last year, especially during the hot season, has caused us to employ sulfonamide drugs with great caution and only if absolutely necessary. Local cutaneous sensitization was seen in a large per-

centage of patients treated with sulfonamide powder and sulfonamide ointment, and use of these materials was discouraged. The most favorable of all our results with penicillin were obtained in this group of patients. It is our belief that the chief factors in the healing of these ulcers are rest in bed and frequent cleaning of the lesions as described, but the adjunctive use of penicillin has changed a slow, time-consuming process to a rapid cure.

E. MISCELLANEOUS DISEASES

Moniliasis.—Three patients with moniliasis were treated with the penicillin ointment. All were scullery workers. One patient had involvement of the paronychial tissue with severe maceration, while the infection of the other 2 was of the erosio interdigitalis blastomycetica type, with the formation of soggy, whitish, erythematous lesions involving the webs of fingers. The results were satisfactory, with healing completed in three to five days.

Seborrheic Dermatitis.—One patient with seborrheic dermatitis was treated with penicillin ointment for five days, and the end result was unsatisfactory.

SUMMARY

Five hundred and twenty-four patients were tested for sensitivity to penicillin ointment. In this group, 5 patients (0.95 per cent) had a positive reaction to the patch test employed.

Penicillin ointment is the preparation of choice when sensitivity to ammoniated mercury or sulfonamide compounds exists.

In the clinical application of penicillin we found the following conclusions to be warranted:

1. It is of no value in treatment of acne vulgaris when employed by intramuscular injection.

2. Its use in treatment of pyodermas is warranted. Its action in the treatment of the so-called tropical ulcer can almost be classified as specific. The use of penicillin ointment in the treatment of sycosis barbae and the combined use of ointment and injection in the treatment of recalcitrant eruptions of the hands and feet merit further study.

3. It is of benefit in the treatment of infectious eczematoid dermatitis, moniliasis and dermatophytoses with streptococcic pyoderma.

Five patients exhibited sensitivity to penicillin, 4 of them presenting acute reaction to the drug when applied locally. The fifth, after receiving 120,000 units of penicillin intramuscularly, had an acute generalized erythematovesicular eruption with fever and toxic symptoms, necessitating the discontinuance of the drug.

We were assisted in the performance of the patch tests and the studies of the results of treatment by the corpsmen and nurses of the hospital to which we were assigned.

FAVUS ACQUIRED IN SERVICE OVERSEAS

REPORT OF INVOLVEMENT OF THE TOE NAILS

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Favus, because of its nature and its resistance to treatment, may become a real threat if it spreads. The case herein reported illustrates that the disease may be carried into this country by returning military personnel and that patients affected may in turn communicate the disease to others. No prior report of favus accquired in overseas duty was found.

Favus is extremely rare in this country. In the Skin and Cancer Unit of the New York Post-Graduate Medical School and Hospital, among 74,046 patients admitted during three years, only 18 with favus were observed.[1] The great majority of the patients with the disease seen in America are foreign born. Favus is common in certain sections of Europe, such as Russia, France, the Balkans and the south of Spain. In North Africa, the disease is widespread in Spanish and French Morocco, Tunisia and Libya. In an unpublished study made by me in the Institute of Hygiene of Madrid, Spain, in which I examined hairs obtained from patients with tinea capitis from Spanish Morocco, it was found that favus was present in 45 per cent of the cases of tinea of the scalp in that region.

Favus of the toe nails is not frequent. Montgomery, Hopper and Lewis have reported 1 such case.[1] Walker [2] described two clinical varieties of onychomycosis due to favus. In one, the more common, the nail itself is involved. In the second type, the lesions affect the nail bed, where a scutulum develops and raises the nail. Sabouraud stated [3] that favus can, on rare occasions, first attack the nails and from there, after months or years, by direct contamination affect the scalp and body of the patient or those coming in contact with him. Therefore, an infection of the nails is a reservoir of the fungus. The danger of the spreading of favus in this country was realized long ago by the United States Public Health Service.

REPORT OF A CASE

A noncommissioned officer, 27 years old, white, American born, was referred to the dermatologic clinic because of a disease of the nails of one year's duration. The patient had served in North Africa, arriving in Cairo, Egypt, in December 1942. For seven months he was in the Libyan desert with his unit. The patient stated that he often walked barefooted. The disease began in February of 1943, when he noticed that one of his toe nails became yellowish and thickened.

Examination showed that changes were localized in the toe nails. The nails were hyperkeratotic, soft, translucent and yellowish. All toe nails were affected. Some areas of the great toe nail were not involved. In three nails, the distal third of the nail plate was separated from the bed. No lesions were present on the skin.

Favus involving the toe nails.

The blood and the urine were normal. Results of serologic tests of the blood for syphilis were negative.

Scrapings of the nails examined in 30 per cent sodium hydroxide solution showed many thick hyphae. Cultures on Sabouraud's medium showed the macroscopic appearance of Achorion schoenleinii. Microscopic examination of the cultures demonstrated a large number of "favic chandeliers" and numerous chlamydospores. No fuseaux, raquet myceliums or spirals were seen.

SUMMARY AND CONCLUSION

A case of favus of the nails in which the disease was contracted by a soldier in North Africa was observed. Because of the danger of the disease being spread by infected personnel returning from overseas, a careful observation of the nails, skin and scalp should be made a part of the physical examination of personnel from areas where the disease is endemic.

Captain Canizares was formerly instructor of dermatology at the New York University College of Medicine.

1. Montgomery, R. M.; Hopper, M. E., and Lewis, G. M.: Favus Involving a Toe Nail: Report of a Case, Arch. Dermat. & Syph. **38**:856 (Dec.) 1938.
2. Walker, N.: An Introduction to Dermatology, New York, William Wood & Company, 1932, p. 248.
3. Sabouraud, R.: Lecture Given at St. Louis Hospital, Paris, Oct. 25, 1935.

CONTROL OF PEDICULOSIS

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The control of pediculosis is a problem of primary importance to the civilian and military populations of the world today. On its control depends the control of louse-borne diseases, such as typhus. To realize the importance of pediculosis infestations it is only necessary to consider the incidence in the United States as well as in foreign countries. Busvine and Buxton [1] have reported an incidence of 30 per cent to 50 per cent in young women in industrial areas of Britain. Twinn and MacNay [2] reported that head lice are probably rather common in Canada. MacHaffie [3] has reported a great loss of school attendance from this cause in Ottawa public schools. Davis [4] stated that in a group of 1,278 persons studied in Mexico, 989 were found to have head lice. We have found in a study of 10,400 persons in three institutions that 1,487 had head lice, 278 had pubic lice and 2 had body lice, or a total of 1,767 persons (17 per cent) with pediculosis. It is also highly probable that infestation with lice is rather common among school children as well as among persons in many industrial areas and institutions in this country.

Once these infested persons are discovered, it is important that they be isolated until the infestation is treated and eradicated. Various substances have been reported as being effective in the control of pediculosis, but they all seem to have certain properties which make their use objectionable. Buxton [5] discussed various methods and substances which are used in the treatment of pediculosis. Among these substances are pyrethrum extracts, rotenone and thiocyanates. Buxton [5] and Twinn and MacNay [2] reported excellent results with thiocyanates incorporated in ointments. There is considerable objection to the use of ointments in the hair since they are greasy, may stain and soil clothing and possess odors. Ointments and other greasy preparations are difficult to use in proportion to the quantity and character of the hair. Davis [4] stated that "the ideal method for treating pediculosis capitis should be by a lotion, since only a liquid can easily penetrate the entire hair and leave a residual for prolonged action." He further stated that "the fluid should rapidly kill lice and nits, should not have unpleasant properties such as greasiness, staining or odor." The last stipulation is in agreement with our experiences in this study.

The experiments reported on in this paper are based on the use of a lotion containing 5 per cent isobornyl thiocyanoacetate and 0.6 per cent dioctyl sodium sulfosuccinate [6] in a suitable form for application in the treatment of pediculosis. The lotion is a milk white emulsion which is stable under ordinary conditions and which is completely water miscible. The latter fact is important, since the treatment of pediculosis discussed in this paper does not require much more technic or manipulation than an ordinary hair shampoo and since all the emulsion may easily be washed from the hair with soap and water.

There are three phases reported in this study —namely, the in vitro experiments, the experiments on cutaneous irritation and sensitization and the experiments on clinical application.

EXPERIMENTAL STUDIES

In Vitro Studies.—In these tests the species of pediculi used were Pediculus humanus capitis, or the head louse, Pediculus humanus corporis, or the body louse, and Phthirus pubis, or the crab louse. Three strains each of Phthirus pubis and Pediculus humanus capitis and one

*From the Smyth Laboratories.

‡From the Philadelphia State Hospital, Dr. C. A. Zeller, Superintendent.

1. Busvine, J. R., and Buxton, P. A.: A New Method of Controlling the Head Louse, Brit. M. J. **1**: 444-446 (April 11) 1942.

2. Twinn, C. R., and MacNay, C. G.: The Control of Pediculosis and Scabies, Canad. Entomol. **75**:4-13 (Jan.) 1943.

3. MacHaffie, L. P.: Pediculosis — A New Treatment, Canad. Pub. Health J. **32**:606-607 (Dec.) 1941.

4. Davis, W. A.: A Treatment for Pediculosis Capitis, J. A. M. A. **123**:825-826 (Nov. 27) 1943.

5. Buxton, P. A.: The Louse; An Account of the Lice Which Infest Man, Their Medical Importance and Control, Baltimore, Williams & Wilkins Company, 1940.

6. Supplied by Wyeth Incorporated, Philadelphia, and the Hercules Powder Company, Wilmington, Del.

strain of Pediculus humanus corporis were tested. Each strain was tested ten times, 5 lice being used in each test. Control lice were tested with distilled water as the control testing substance. It took several hours before suffocation or drowning took place in the control study.

The tests were made by adding a sufficient quantity of test material to cover the test animal completely. Five lice were used on each slide for each test. The killing time was taken to be the time from initial contact of the test material with the animal to complete cessation of all motion in the animal, including peristaltic motions and aortic contractions.

Phthirus pubis: The average killing time for strain 1 was four minutes and thirty-one seconds; for strain 2, four minutes and forty-two seconds, and for strain 3, five minutes and three seconds. The range was from two minutes and twenty seconds to seven minutes and twelve seconds.

Pediculus humanus capitis: The average killing time for strain 1 was five minutes and thirty-eight seconds; for strain 2, five minutes and fifteen seconds, and for strain 3, six minutes and eleven seconds. The range was from three minutes and fifteen seconds to eight minutes and fifty-one seconds.

Pediculus humanus corporis: The average killing time was four minutes and fifty-eight and five-tenths seconds, with a range from two minutes and fifteen seconds to seven minutes and ten seconds.

The in vitro study indicates that the emulsion tested had definite toxic effects on the three species of pediculi studied.

Toxicity Studies.—The thiocyanate in a 5 per cent solution was tested for acute and subacute toxicity on albino rats, guinea pigs and rabbits, both by mouth and by exposure to the vapor and was found to be relatively nontoxic. After the studies on animals were finished, a group of 200 persons, 100 males and 100 females, were exposed to a finely divided spray of the test substance in a 5 per cent solution for one-half hour daily for ten days, at the end of which time there was a three weeks' lapse and a subsequent reexposure for three days, without any harmful effects. These subjects were examined by an internist, a dermatologist and an otolaryngologist before and after exposure.

Studies of Cutaneous Irritation.—Under the supervision of Dr. Joseph V. Klauder, dermatologist, the following method was employed in studying the effect of this emulsion on human skin. Lintine disks were saturated with the emulsion and applied to the backs of 200 unselected subjects, 100 males and 100 females. These patches were covered with a square piece of wax paper and held in place by means of adhesive tape. The patches were allowed to remain on the backs of these subjects for a period of five days, at the end of which time they were removed and the reactions on the skin of the subjects noted. Six per cent of the males and 9 per cent of the females had a 1 plus reaction, or a total of 15 subjects (7.5 per cent) reacted in this series. A period of three weeks was allowed to elapse, and patches of the same substance were then reapplied to the backs of the same 200 subjects. They were allowed to remain in contact with the skin for a period of forty-eight hours. At the end of this time, the patches were removed and the reactions noted. Five of the 6 males who reacted on first application reacted on second application, and 7 of the 9 females who reacted on first application reacted on second application. The reaction was 1 plus. A total of 12 subjects, or 6 per cent, in this series reacted. Subjects who did not react on the first application did not react on the second. The scale of reaction used in this study was as follows: 1 plus, redness; 2 plus, redness and punctate erythema, and 3 plus, redness and blistering. None of the subjects on either the first or the second application had 2 plus or 3 plus reactions. The method of patch testing used in this study is a slight modification of that proposed by Dr. Louis Schwartz of the United States Public Health Service.[7]

It may therefore be concluded that the substance tested is capable of acting as a mild primary irritant to some persons. There is no evidence, however, that this is a sensitizing substance, since the number of subjects who reacted on the second application was no greater than the number who reacted on the first.

It must be borne in mind that the conditions of this experiment in determining cutaneous irritation are far more stringent than those encountered in actual use, since the material was kept in direct contact with the skin for five days on the first application and two days on the second application.

CLINICAL EVIDENCE

A total of 1,487 persons with pediculus humanus capitis were treated with the lotion. These cases were taken from the Philadelphia State Hospital, Norristown State Hospital and Philadelphia General Hospital. The following procedure was employed:

1. The emulsion was applied in quantities varying from 1 to 2 ounces (30 to 60 Gm.) depending on the quantity and character of the hair.
2. The emulsion was worked into a lather and allowed to remain for five to ten minutes.

7. Schwartz, L., and others: An Outbreak of Dermatitis from New Resin Fabric Finishes, J. A. M. A. **115**:906-911 (Sept. 14) 1940.

3. The head was then combed (use of a fine comb optional).
4. The head was permitted to dry and the emulsion allowed to remain overnight.
5. The head was washed the following day.
6. Care should be taken not to get any of the emulsion into the patients' eyes, nor should the emulsion be allowed to remain in contact with the skin for too long a period. It must be remembered that none of the substances used in the treatment of pediculosis can be placed into the eyes with impunity. Almost any drug, or even soap for that matter, will cause an irritation if placed in contact with the skin for five days.

Most infestations cleared with one application. Approximately 10 per cent of them required two applications, but in no case were more than two applications necessary to eradicate the infestation.

Two hundred and seventy-eight persons infested with Phthirus pubis were treated. The following procedure was employed:

1. The emulsion was applied in 1 ounce (30 Gm.) quantities.
2. The emulsion was worked into a lather and allowed to remain ten minutes.
3. At the end of this time, the emulsion was washed out with soap and water.

Two applications were sufficient to clear all these infestations.

There were 2 persons infested with Pediculus humanus corporis who had some of the emulsion applied to parts of the trunk where lice were found. We were not successful in finding many persons who were infested with body lice. Those 2 persons having body lice also had their clothes disinfested. Subsequent examination showed no evidence of pediculi.

The lotion was applied to an additional 4,500 patients, who did not have pediculi, as a prophylactic measure.

RESULTS

All the patients treated were heavily infested with pediculi. Some of them had secondary infections of the scalp due to scratching. The patients made no objection to treatment, receiving immediate relief from itching, and were eager for the second application.

All the persons treated were freed of their pediculi infestation with one or two applications. A total of 4 irritation reactions were obtained in the entire group. These reactions consisted of a mild erythema at the back of the neck which cleared in two days. These reactions were obtained in one institution. The others reported no irritation reactions in any of their patients.

It has been the experience in the institutions where this lotion has been used that it is more effective by far than any other preparation that had been used. The lotion acts so rapidly that most of the pediculi are killed on the first application. The nits are loosened in a few minutes and can easily be removed. Incubation of these nits at 32 C. did not cause any lice to hatch. Apparently the nits were killed. The hair is much easier to comb after the use of this emulsion than after the use of other preparations, such as sassafrass, fishberry, tincture of larkspur, kerosene and weak phenol solution. Other advantages noted are that this emulsion has a pleasant odor, is as easy to apply as a shampoo and has none of the oiliness or other disagreeable properties of some of the other preparations. It is not so difficult to remove and leaves the hair in a better condition. There is no soiling of linen due to the lotion.

The efficacy of this method of treatment enables one to treat large groups of patients in definite areas in a short period, thus eliminating the possibility of reinfestation of treated patients. Once the patients in a building have been definitely freed of infestation, it is only a matter of prophylactic treatment of new admissions to that building to keep the place free of pediculosis. We feel certain that the same problem confronts many other institutions in the United States, and we are offering this study to them as a method whereby this disease can be eradicated in a most convenient manner.

SUMMARY

A lotion containing isobornyl thiocyanoacetate and dioctyl sodium sulfosuccinate has been found to have rapid action in vitro on Pediculus humanus capitis, Phthirus pubis and Pediculus humanus corporis. Patch tests with the lotion on 200 unselected subjects produced only a slight degree of primary irritation in a small incidence under the stringent conditions of patch testing.

The lotion was used on 1,487 persons with Pediculus humanus capitis, 278 with Phthirus pubus and 2 with Pediculus humanus corporis.

Four patients in a group of 6,258 (1,758 with pediculi and 4,500 treated prophylactically) had a slight reaction to the emulsion. This reaction disappeared in one to two days.

The emulsion is easy to apply and quick acting, leaves no grease, stain or odor and leaves the hair in a better condition than before application.

Jefferson H. Clark, M.D., Director of Laboratories, Philadelphia General Hospital, and Herbert H. Herskovitz, Assistant Superintendent, Norristown State Hospital, assisted and cooperated during this study through the institutions with which they are associated. Mrs. Ruth Harrington, R.N.; Miss Frances F. Kusza, R.N.; Miss Martha Greenawalt, R.N.; Miss Carlene Esternach, R.N., and Miss Violet Skupski assisted in making this study possible.

POIKILODERMA AS THE INITIAL STAGE OF MYCOSIS FUNGOIDES

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The picture of poikiloderma as it was originally outlined by Jacobi [1] and the question as to whether or not it should be considered a disease sui generis are still the subjects of much discussion. This is particularly true in view of the cases in which poikiloderma-like symptoms have been reported as part of the elements of various chronic inflammatory dermatoses. However, it seems certain that poikilodermal symptoms need not necessarily develop into some other disease and may continue to be present in the form of poikiloderma atrophicans vasculare (Jacobi) or poikiloderma of Civatte [2] for many years. Whether the Jacobi type represents the chronically developing form of poikilodermatomyositis, as was first reported by Petges and Cléjat [3] or whether the myositic changes are the characteristics of still another independent type is as yet undecided. Only with regard to dermatomyositis and generalized progressive scleroderma do investigations by Dowling,[4] Freudenthal,[5] Griffiths [6] and Lewis [7] seem to have established a close relationship.

In the course of the years it has occurred that cutaneous manifestations presented and reported on as belonging to the poikilodermal syndrome later turned out to be symptoms of some systemic disease. For part of them it had been obvious—or at least probable—from the start that they could not be considered as diseases sui generis. Wise,[8] therefore, in the discussion on Oliver's [9] article suggested that to designate manifestations of this kind the term "poikiloderma-like" should be adopted.

On perusal of the literature, we noted that the cases referred to as instances of poikiloderma often presented not the originally described generalized cutaneous manifestations but lesions of a more localized character.

The present case is that of a patient whom we saw recently who had suffered from the symptoms referred to for fourteen years. When we saw her for the first time she presented in every detail the fully developed characteristic aspect of poikiloderma of the Jacobi type, and the histologic features suggested no other underlying disease. However, during her stay in the hospital (which lasted nine months) a multitude of tumors formed on the pathologically changed portions of the skin, and after a short time she presented the fully developed picture of mycosis fungoides in its tumor stage.

REPORT OF A CASE

The patient was a woman of 39, born in Poland, who had been in Palestine for eight years. Her family history was of no importance. She had had three healthy children.

At the age of 16, the patient noticed "spots" on her thighs, without itching, which disappeared spontaneously after a few years. Fourteen years before she consulted us she noticed similar spots in her armpits, which since her arrival in this country had spread all over her body. Nine months before she was admitted to the hospital an oozing lesion had developed on her right temple, from which a specimen for biopsy was taken elsewhere. Histologic examination did not, however, help to establish a diagnosis. During the last half year preceding her admission the skin of her face and hands had also become involved. She was admitted to the hospital on Oct. 22, 1942.

The patient was of fair complexion and had a goiter. Slight alopecia with seborrhoic scales was observed. The involved areas included the entire skin of the body. The face showed erythema with telangiectases on the cheeks, forehead and upper lids. On the tip of the nose there was a patch of yellowish keratosis. The skin of the neck was like cigaret paper and of a yellowish brown color, studded with telangiectases and completely covered with delicate scales. Similar manifestations were seen on the chest, where, in addition, ochre yellow patches 0.5 to 1 cm. in diameter were noted, particularly in the clavicular region, with small hemorrhages. The skin of the entire abdomen was thin and atrophically creased with slight striae gravidarum. On the back, the atrophic skin included some interspersed areas of inflammation which had a bluish red tinge. Here the different stages—inflammation, atrophy, telangiectases

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From the Dermatologic Department of the Rothschild-Hadassah University Hospital, Head, Dr. A. Dostrovsky.

1. Jacobi, E.: Fall für Diagnose (Poikilodermia vascularis atrophicans), Verhandl. d. deutsch. dermat. Gesellsch. (1906) **9**:321, 1907.

2. Civatte, cited by Oliver.[9]

3. Petges, G., and Cléjat, C.: Sclérose atrophique de la peau et myosite généralisée, Ann. de dermat. et syph. **7**:550, 1906.

4. Dowling, G. B.: Generalized Scleroderma, Brit. J. Dermat. **52**:242 (Aug.-Sept.) 1940.

5. Freudenthal, W.: Generalized Scleroderma and Dermatomyositis: A Histological Comparison, Brit. J. Dermat. **52**:289 (Oct.) 1940.

6. Griffiths, W. J.: Biochemical Aspects of Dermatomyositis, Brit. J. Dermat. **52**:295 (Oct.) 1940.

7. Lewis, T.: Notes on Scleroderma (Dermatomyositis), Brit. J. Dermat. **52**:233 (Aug.-Sept.) 1940.

8. Wise, F., in discussion on Oliver.[9]

9. Oliver, E. A.: Mycosis Fungoides with Poikiloderma-Like Symptoms, Arch. Dermat. & Syph. **33**: 267 (Feb.) 1936.

and pigmentation—were particularly clearly distinguishable. The aspect presented by the skin of the back and abdomen was similar to that observed in roentgen dermatitis, particularly in view of the dryness and roughness. On the upper extremities the flexor sides were preponderantly involved, the extensor sides being left almost entirely free. There were numerous leukonychias. It was interesting to note that the character of the symptoms varied in accordance with the nature of the area on which they had developed. Thus on the wrists and thenar eminences the skin was decidedly creased and showed vascular changes, while on the palms there were only some plaques, distinguished from their environment by their color, without clinically recognizable atrophy, and on the fingers the picture was the same as that of the wrists.

Fig. 1.—Generalized eruption on the back and in the lumbar region. The patchy picture with atrophic inclusions is distinct.

On the lower extremities, conditions were distinctly different. Here large normal areas were found between the individual patches, the latter being either of circular or of oval outline, 3 to 6 cm. in diameter and of a brownish blue color with slight atrophy, similar to parapsoriasis en plaques. Distally, the patches were fewer, disappearing almost entirely on the feet and completely on the soles. The axillary and inguinal lymph nodes were slightly enlarged. The mucous membrane of the mouth was normal. Above the mons pubis, a small bluish red infiltration was noted. The genital region was normal. There was no itching, and varices of the legs were not observed.

Laboratory examinations showed the urine, feces and blood to be normal. Thrombocytes numbered 230,000. The sedimentation rate of the blood was normal. Chemical analyses (by Professor Wertheimer of the Chemical Institute) showed urea, uric acid, chloride and dextrose levels and dextrose tolerance normal; calcium level, 10.8 mg. per hundred cubic centimeters, and phosphorus level, 3.4 mg. There was 1.16 Gm. of creatinine in 1,500 cc. of urine and traces of creatine. The Weltmann reaction was 4 plus and the Takata-Ara reaction negative. The excretion of hippuric acid was 3.86 Gm. in five hours. The total protein and the albumin-globulin ratio were normal. The level of total cholesterol varied between 120 and 233 mg. per hundred cubic centimeters; the free cholesterol level was 91 mg. and the level of cholesterol esters was 142 mg. Fractional gastric analysis indicated hyperacidity.

The Wassermann and Kahn reactions were negative. The basal metabolic rate was + 40 per cent and + 32 per cent respectively on two occasions. Intracutaneous tests with congo red for amyloid and with potassium ferrocyanide for hemochromatosis gave negative results. Roentgenograms showed that the lungs and the sella turcica were normal.

Examination of the eyes (by Professor Feigenbaum) showed extreme myopia on the left and constriction of the retinal vessels on the other side. A gynecologic examination (by Dr. Sadowski) disclosed multiple myomas of the uterus. Medical examination revealed nothing abnormal.

Therapy consisted in administration of vitamins and liver, injections of an arsenic compound and local irradiations with grenz rays (single doses, 300 r; total dose, 1,200 r; 10 kilovolts, which is equivalent to a half value layer of 0.027 mm. of aluminum).

Irradiation provoked violent local erythema every time it was applied. One to two months after the

treatment had been started, the skin was considerably improved and it seemed as though the atrophy were also about to subside.

Five weeks after the patient was admitted to the hospital small infiltrations appeared in the right nasal angle and on the back, growing rapidly in the course of one or two months and gradually becoming elevated above the level of the skin in tumor fashion. After another month, the appearance of small tumors on the right labium majus as well as on the right side of the abdomen, chest and back was noted. Roentgen irradiation caused the tumors to become somewhat flatter, and the patient left the hospital in a satisfactory general condition on March 23, 1942.

She was readmitted on June 28, 1942. In the meantime, many new tumors had appeared all over her body and she had received roentgen treatments outside the hospital until they had had to be discontinued seven weeks before her admission on account of thrombophlebitis of both legs. During all that time she had had a high temperature and was in a rather poor general condition. Three days before this admission she had had an attack of dyspnea and had collapsed. On this admission her general state was characterized by marasmus, temperature up to 38.4 C. (101.1 F.), fetid odor and pain. The entire skin was studded with masses of tumors (their total number being 394, as accurately as they could be counted, since they had coalesced in some places) (fig. 3). The tumors were from 0.5 to 5 cm. in diameter, the majority of them on the trunk and upper extremities, showing erosion and ulceration. Part of them resembled lesions of impetigo with a slight degree of infiltration. The larger tumors showed vegetations or deep necrosis, so that the edges were bulging and elevated in wall fashion. On the thighs there were only a few scattered tumors, while in general here the appearance of parapsoriasis en plaques was still the main feature. The poikilodermal picture as a whole had remained almost unchanged, except that the skin was paler and as a consequence the markings were less pronounced. The urine contained traces of albumin. The diastase in the blood was 10 units, and the blood itself showed slight anemia. The leukocytes numbered 4,600 and later 15,000. The results of other examinations were the same as before. A roentgenogram of the lungs was normal.

Therapy consisted in the local application of sulfanilamide powder, gentian violet and iodoform. This treatment caused the fetid odor to disappear, and slight improvement was recorded. At the same time roentgen treatment was started (by Professor Halberstaedter). After a month the tumors had become flatter; but, while the skin was improved, the patient's general condition rapidly declined, and although she was treated internally and received blood transfusions and other supportive measures she died on Aug. 1, 1943. Permission for autopsy was refused.

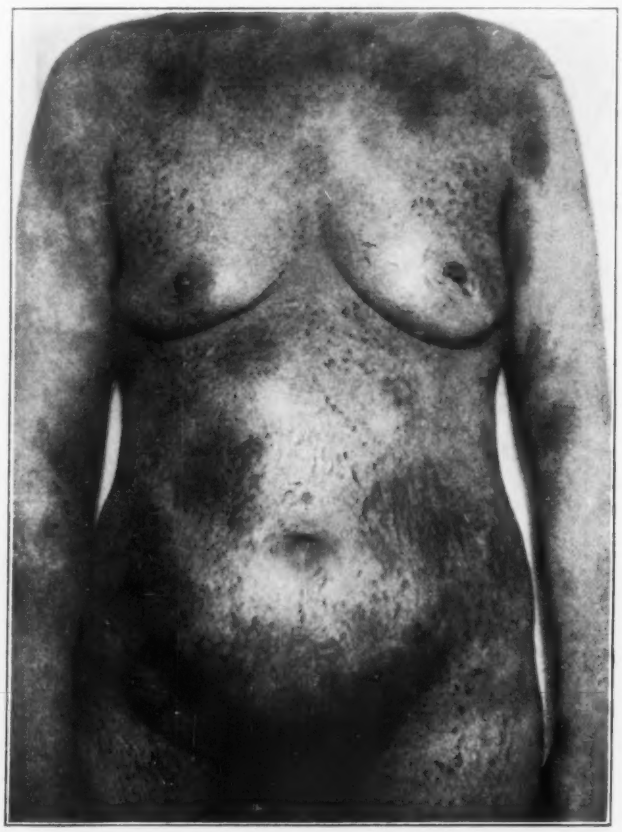

Fig. 2.—Eruption on the abdomen and chest, the aspect of which is similar to that of "roentgen skin" with a multitude of telangiectases and pigmentation, the skin in some places being as thin as cigaret paper.

Histologic Observations. — Biopsy specimens were taken from various places (chest, shoulder, axilla, abdomen and thighs) during the first days of the patient's stay in the hospital. Figure 4 illustrates the biopsy specimen taken from the chest.

Histologic study, by Professor Franco, director of the Pathologic-Anatomic Institute, was reported as follows: "The epidermis shows varying degrees of

atrophy in accordance with the area from which the section was taken. There is slight hyperkeratosis, with traces of parakeratosis. In several places the basal cell layer is destroyed by infiltrations which emerge from

Fig. 3.—Multiple tumors, the poikilodermal character of which is already less distinct but recognizable in the axillary regions.

laries. In this area elastic fibers are almost entirely absent. The appendages of the skin are also absent. Underneath this band the structure of the cutis is normal, containing a few isolated small cell infiltrations. A stain for iron shows little iron, in the form of small granules contained, in the histiocytic cells; and a stain for fat (sudan III) shows in the whole tissue only a few cells containing minute red dots."

Two months later, a small tumor which had recently developed was excised, and the histologic report on it presented the following observations:

"Piece of tumor of the back: Microscopic examination: [fig. 5]: For a length of one third of the piece at one end, the epidermis shows ulceration; the rest is well preserved. The horny layers are poorly developed and can easily be detached. There is evidence of slight hyperkeratosis with parakeratosis. The stratum lucidum is nowhere to be seen. The stratum granulosum is also absent, but a few cells with minute granules can be seen here and there.

"There is decided acanthosis. The intercapillary plugs are hypertrophic. The delimitation between the cutis and the epidermis is generally sharp, although there are some places where this is not the case, owing to the destruction of the basal cell layer by cellular infiltration emerging from the cutis. It must be added that in the malpighian net very small scattered vesicles are found.

"The cutis is completely invaded by a thick cellular infiltration with penetration into the papillary bodies, which are, moreover, edematous.

"At the border between the cutis and the subcutaneous tissue, infiltration stops abruptly except in a few areas where it continues in the subcutaneous tissue with the mantles of perivascular infiltration.

Fig. 4.—Mycosis fungoides in the poikiloderma stage without tumor formation (× 150; green filter).

the cutis. There is intracellular edema. In the upper part of the cutis one sees a regular band with a sharp border toward the rest of the cutis. It consists of lymphocytes and histiocytes with a few erythrocytes and shows edematous swelling throughout its whole length. There are neither granulocytes nor plasma cells, but there is a slight degree of new formation of capil-

"The cellular infiltration of the cutis is formed of elements of various kinds, the most important being the following: (1) cells of the lymphocytic and lymphoblastic type; (2) plasma cells in various sizes; (3) neutrophile and acidophile granulocytes, the latter in great numbers; (4) large cells containing three or four nuclei and scanty protoplasm of no peculiar char-

acter, and (5) large cells, each containing a big pale nucleus, probably histiocytes.

"Genuine giant cells are not to be found, nor are there fibroblasts. A striking feature is seen in the presence among the cells of the infiltration of numerous nuclear fragments due to karyoklasis. Immediately underneath the ulcerations mitotic figures are rather numerous, while farther off there are only a few.

"The blood vessels of the cutis are dilated and congested. While some of them have maintained their normal structure, others have a thick endothelium.

"The amount of collagenous tissue is in inverse proportion to the degree of cellular infiltration. Where the development of the latter is greater, the collagenous tissue has completely disappeared; where the infiltration cells are less crowded, the collagenous tissue has persisted, forming a reticulum which reminds one of the reticulum of the lymphomatoid sarcoma. Elastic fibers are completely absent in the cutis.

"In the subcutaneous tissue numerous foci of perivascular cellular infiltration are to be found, consisting almost exclusively of lymphocytoid cells and plasma cells, all of them tightly adherent to the vessel walls."

From this histologic description it can thus be concluded that we were dealing with a typical case of mycosis fungoides.

Summary of the Case Report.—A woman aged 39 had for fourteen years noticed red "spots" all over her body. Clinical examination revealed the presence of poikiloderma atrophicans vasculare (Jacobi). With this diagnosis the patient had been presented before the Jerusalem Dermatological Society on Oct. 30, 1942 by one of us (A. D.), but it had been pointed out that the results of the histologic examinations, which had been made elsewhere from a biopsy specimen of the temporal region, were not available. In the subsequent discussion, Koenigstein, who had seen the patient on an earlier occasion, reported that no diagnosis had been possible on the grounds of the conditions observed at biopsy. One month later, after the first tumors had made their appearance and the clinical as well as histologic diagnosis of mycosis fungoides had become a certainty, the patient was again presented at the Jerusalem Dermatological Society (Jan. 27, 1943). During the subsequent seven months, multiple tumors developed all over her body, and the patient eventually died.

COMMENT

When one is confronted with a case like the present one, it always seems doubtful whether the poikilodermal syndrome, which is usually considered as idiopathic or determined in the germ plasma (Gans [10]), may not in the course of years merge into another more clearly defined condition. However, although it is admitted that in certain stages the resemblance to lupus erythematosus (Kreibich [11]), purpura annularis telangiectodes, atrophia cutis idiopathica, parakeratosis variegata or roentgen burns is striking, its independent character is nevertheless stressed by many authors (Bettmann,[12] Fröhlich,[13] Geiger and Konrad,[14] Richter [15] and others).

Oliver, in his comprehensive study on the subject, pointed out that when the period of obser-

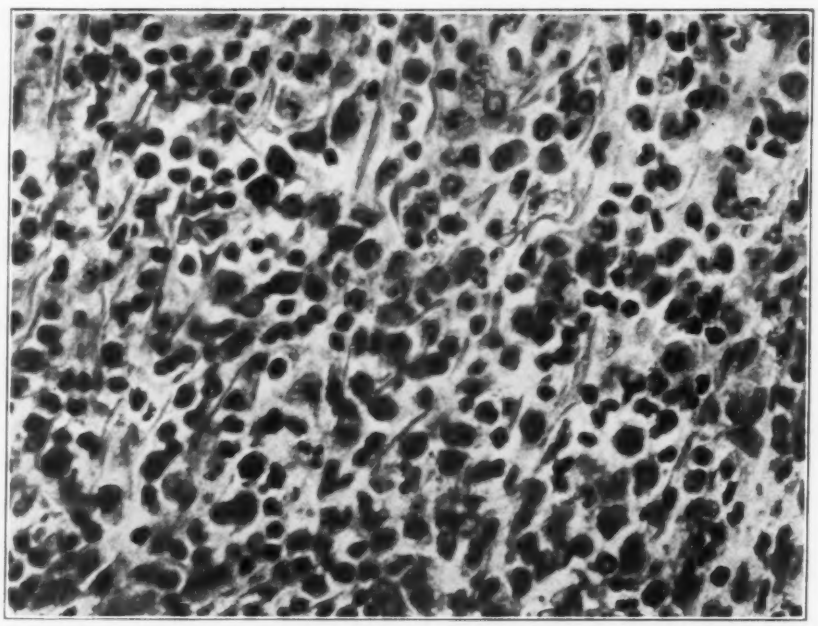

Fig. 5.—Characteristic patch of polymorphonuclear cell infiltration, tumor stage of the same case (immersion lens; ×520; green filter).

10. Gans, O.: Histologie der Hautkrankheiten, Berlin, Julius Springer, 1925, vol. 1, p. 38.

11. Kreibich, C., in discussion on Jacobi.[1]

12. Bettmann, S.: Ueber die Poikilodermia atrophicans vascularis, Arch. f. Dermat. u. Syph. **129**:101, 1921.

13. Fröhlich, H.: Zur Kenntnis der Poikilodermie, Arch. f. Dermat. u. Syph. **163**:437, 1931.

14. Geiger, R., and Konrad, J.: Ist die Poikilodermia atrophicans vascularis Jacobi ein selbständiges Krankheitsbild? Arch. f. Dermat. u. Syph. **164**:189, 1931.

15. Richter, W.: Ueber poikilodermatische Veränderungen der Haut, Arch. f. Dermat. u. Syph. **167**: 233, 1933.

vation is sufficiently long the disease is, as a rule, eventually identified as a certain phase of chronic inflammatory dermatosis. His patient presented circumscribed poikiloderma-like lesions on which infiltration later developed, so that the diagnosis of mycosis fungoides was established beyond doubt. But even on the occasion of the first presentation of this patient (before the Chicago Dermatological Society, Feb. 15, 1933) it was suggested by Senear [16] and Finnerud [17] that one might possibly be dealing with the premycotic stage of mycosis fungoides.

In the case of another patient, reported on by Lane,[18] autopsy, which was carried out five years later, revealed Hodgkin's disease, while in yet another mycosis fungoides had developed. For Keim's [19] case the final evidence of mycosis fungoides could not be provided and the possibility that the patient was suffering from leukemia could not be ruled out. The patient reported on by Ormsby [20] presented lymphosarcoma in addition to poikilodermal symptoms, although the author stated that there was no connection between the two diseases. Poikiloderma had already been present for several years when the lymphosarcoma developed on the glans penis with involvement of the inguinal lymph nodes, only later becoming generalized. In his opinion, this was a mere coincidence.

Another case, reported by Gougerot and Burnier,[21] seems particularly noteworthy. Their patient was 40 years old and since his eighteenth year had noticed brownish red plaques on his trunk, face and extremities, which were covered with delicate, easily removable scales, underneath presenting a smooth, shining surface similar to that found in parapsoriasis en plaques. Four years later, the changes had become intensified, the extremities now also being covered by a network of pigmentation, atrophy and telangiectases, creating the typical aspect of poikiloderma. After another five years, however, the patient presented the fully developed picture of mycosis fungoides.

Careful study of this and other cases led these authors to the conclusion that parapsoriasis en plaques and pityriasis lichenoides chronica, on the one hand, and poikiloderma, on the other, are nothing but two different manifestations of the same process. The types described by Petges and Cléjat as well as by Jacobi would therefore represent the fully developed picture, while parapsoriasis en plaques and pityriasis lichenoides imply preliminary stages. In their opinion, moreover, parakeratosis variegata and mycosis fungoides are sometimes indistinguishable from each other and patients presented with the diagnosis of the one later turned out to be suffering from the other.

Civatte also saw a patient with poikiloderma for whom Brocq had originally diagnosed parakeratosis. The patient later died from mycosis fungoides. A similar case was presented by Gaté and Michel,[22] the patient showing poikiloderma which had started at the age of 11 and dying of mycosis fungoides at the age of 38.

In the discussion following Perlstein's [23] demonstration of a case of poikiloderma it was stressed that the bow-shaped outlines of the lesions on the back and arms should be taken as evidence of its mycosis fungoides character.

Oppenheim [24] has stated that poikiloderma may be the terminal stage of a great number of dermatoses, in contradistinction to which the poikilodermal manifestations of our patient represented not the final but the initial stage and had been present for fourteen years prior to tumor formation. Apparently either is possible.

From the great number of references in the literature we are citing only those in which later mycosis fungoides or a similar disease was definitely established.

Another question is whether in our patient the practically universal character of the changes should not from the start have been considered as indicative of the premycotic stage of mycosis fungoides. However, the atrophy, telangiectases and hemorrhages, the absence of circumscribed infiltrations and of itching and the histologic picture presented at an earlier stage justified its original classification as poikiloderma.

On the other hand, the tendency of the skin to develop erosions which persisted for a sur-

16. Senear, F. E., cited by Oliver.[9]

17. Finnerud, C. W., cited by Oliver.[9]

18. Lane, J. E.: Poikiloderma Atrophicans Vasculare, Arch. Dermat. & Syph. **4**:563 (Nov.) 1921; Poikiloderma, ibid. **15**:621 (May) 1927.

19. Keim, H. L.: The Lymphoblastomas: Their Interrelationships, Arch. Dermat. & Syph. **19**:533 (April) 1929.

20. Ormsby, O. S.: Case for Diagnosis, J. Cutan. Dis. **35**:42 (Jan.) 1917; A Case for Diagnosis (Poikiloderma?), Arch. Dermat. & Syph. **18**:304 (Aug.) 1928; in discussion on Oliver.[9]

21. Gougerot, H., and Burnier: Parapsoriasis en plaques avec poïkilodermie; transformation ultérieure en mycosis fungoïde, Bull. Soc. franç. de dermat. et syph. **41**:1528 (July) 1934.

22. Gaté, J., and Michel, P.: A propos d'un cas de poikilodermie: Evolution clinique récente vers le mycosis fongoïde, Bull. Soc. franç. de dermat. et syph. **36**:839, 1929.

23. Perlstein, M. O.: Poikiloderma Atrophicans Vasculare, Arch. Dermat. & Syph. **28**:735 (Nov.) 1933.

24. Oppenheim, M.: Zentralbl. f. Haut- u. Geschlechtskr. **36**:163, 1931.

prisingly long time, some of them disappearing spontaneously or showing satisfactory response to grenz rays, suggested that we were dealing with a specific process, although histologically no characteristic tissue could be identified. It was noteworthy that on the chest and abdomen atrophy disappeared on exposure to grenz rays so that the skin reassumed an almost normal clinical appearance. For mycosis fungoides this reaction would be explainable, while genuine atrophy could scarcely be expected to respond to irradiation. A distinctive difference was seen on a certain area of the skin on the right side of the abdomen where, for experimental reasons, only a small sector had been exposed to radiation. This area and the surrounding skin were later examined histologically, and it was seen that the infiltration of the cutis had almost completely disappeared in the treated area.

Retrospectively, therefore, the coincidence of the lesions encountered on the lower extremities with an aspect similar to that of parapsoriasis of Brocq and the poikilodermal picture of lesions in other places appear to suggest that we are dealing with a precursory stage of the later actually developing mycosis fungoides.

From the observations in this case and those reported in the literature, one gains the impression that poikiloderma may represent a particular reactional mechanism of the skin which can be set in motion by a number of different agencies, in the present case mycosis fungoides.

SUMMARY

In a patient whom we treated the symptoms of poikiloderma atrophicans vasculare had been present for fourteen years. In the course of three quarters of a year, the characteristic aspect of mycosis fungoides developed, with a multitude of tumors scattered over her body. The patient showed the first definite signs of tumor formation during her stay in the hospital.

This case calls attention to the fact—to which far too little attention is given—that poikiloderma may appear as a symptom of a chronic inflammatory dermatosis. In this case, it must be considered the initial, or premycotic, stage of mycosis fungoides.

It is scarcely permissible to assume that one disease should have been converted into another or that two different diseases should have accidentally been present independent of each other.

NOTE.—A second patient, who initially presented the aspect of parapsoriasis en plaques and later that of poikiloderma and in whom the first tumors have just made their appearance (histologically identified as mycosis fungoides) is now under our observation.

Professor Franco, head of the pathologic-anatomic institute, and Professor Wertheimer, head of the biochemical institute, of the Rothschild-Hadassah University Hospital, assisted in this study.

GASTRIC SECRETION IN INFANTILE ECZEMA

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While the clinical pictures of the various forms of infantile eczema are concise, the causative factors are far from clearcut. Infants with eczema are frequently given various diets based either on the results of cutaneous tests with atopic substances or on data obtained by food elimination. But these diets often fail to produce curative results. Occasionally one of us (A.S.) has witnessed a favorable result in infantile eczema following internal administration of large doses of dilute hydrochloric acid. So this investigation was undertaken in an effort to determine the status of the gastric secretion in infants with eczema.

The literature records a number of observations bearing on the question of secretion of gastric acid in infants and young children. These can be summarized in the statement that the free hydrochloric acid and the total acidity are considerably lower in healthy infants and young children than in adults and that the reduction averages about 40 per cent.

The investigation here presented dealt with 50 children varying in age from 9 months to 12 years. In this group there were 35 patients with atopic eczema, 4 with the seborrheic type, 2 with the ichthyotic variety and 9 control children. All were relatively normal aside from their dermatologic condition. No analysis was made for a febrile child or during the acute stage of any illness.

METHOD OF TESTING

The technic employed consisted in the passing of a narrow Levine tube intranasally early in the morning after an all night fast, the distance on the tube passed having been approximated by holding the end at the epigastrium and following the curve of the alimentary tract from the stomach to the teeth. The Ewald test meal was used. It is realized that this test is a crude means of measuring the secretory capacity of the stomach. Various objections have been raised regarding it, particularly because of its low secretagogue content and because the acid secreted in the stomach is diluted by saliva and regurgitated duodenal contents, yet the method is sufficiently accurate for clinical purposes in the light of present knowledge. The fasting stomach was emptied of its contents, and another extraction was made one hour after the Ewald test meal. Both extractions were titrated with twentieth-normal sodium hydroxide, with Töpfer's reagent and phenolphthalein used as indicators of free hydrochloric acid and total acidity respectively. The results were expressed in units, or numbers of cubic centimeters of tenth-normal sodium hydroxide solution required to neutralize 100 cc. of gastric juice.

RESULTS

Analysis of our findings showed that in the eczematous group the free hydrochloric acid averaged 24.8 units while the total acidity was 49.6 units. In the control series the free hydrochloric acid was 23.3 units and the total acidity 43.3 units. It is therefore apparent that the values for infants with eczema failed to show any pronounced or consistent variation, either in the free hydrochloric acid or in the total acidity in the stomach, when compared with the values for our controls or with those that various observers have reported for normal infants and children.

CONCLUSION

The Ewald test meal, used as an index for measuring gastric secretory function, failed to reveal any deviation from the normal in this series of eczematous infants and children.

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SENSITIVITY TO SULFADIAZINE RESEMBLING ACUTE DISSEMINATED LUPUS ERYTHEMATOSUS

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The widespread use of sulfonamide compounds has resulted in a variety of complicating systemic and cutaneous reactions. Darke [1] has recently reported a series of 218 cases in which the patients were treated topically with 5 per cent sulfathiazole ointment. Five per cent of these patients were found to be sensitive to the drug. Photosensitization of the skin after oral ingestion of sulfathiazole has been reported and discussed by Livingood and Pillsbury.[2] Clark [3] described a case of severe dermatitis confined to the exposed skin of a patient's face, ears, neck and hands. The dermatitis followed oral administration of sulfathiazole ten days after it had been used as an ointment.

From time to time it has been suggested that disseminated lupus erythematosus may have an allergic basis. Pulay [4] and Gennerich [5] were among the first to note the hypersensitiveness of patients having disseminated lupus erythematosus. Pulay attributed the photosensitivity to any one of the products of metabolism, such as dextrose, acetone, hemoglobin, urea, hematoporphyrin, tyrosine and other chemical substances which have been shown to produce photosensitivity. Gennerich, on the other hand, expressed the opinion that a sensitizing product results from the destruction of the lymph glands by some disease process. Fox [6] has cited a case of foreign protein sensitivity due to horse serum followed by the disease entity clinically and pathologically typical of disseminated lupus erythematosus.

In a military theater the process of chain evacuation to the zone of interior restricts the period of observation for prolonged illnesses and limits the conclusions that can be arrived at in an area of operations or a zone of communication. However, this case of sensitivity to sulfadiazine is reported because distinct clinical features duplicating acute disseminated lupus erythematosus have been observed.

REPORT OF A CASE

A private aged 19 was inducted into the Army of the United States during July 1943. The following month, during basic training, he had a low grade infection involving the skin and hair follicles of the back of his neck. The infection was treated intermittently at the dispensary throughout the remainder of 1943. The patient reported that a variety of ointments had been used, including, he thought, ammoniated mercury, ichthammol and sulfadiazine preparations. His only other illness occurred during August 1943, when he contracted a cold, was hospitalized for nine days in the local station hospital and received large white tablets for several days without complications. He thought these tablets contained a sulfonamide drug. The low grade cutaneous infection persisted while the patient was en route overseas during December 1943 and was treated at irregular intervals with various ointments, including one containing sulfadiazine.

During a cold night in January 1944 his hands were severely chilled while he was being transported in an open railroad car. The following day scattered erythematous papules and vesicles developed on the dorsa of both hands and the proximal phalanges. These lesions coalesced and became crusted within several days. Boric acid soaks were used at the dispensary and were partially effective, but a diffuse purplish erythema persisted.

On Feb. 7, 1944 he rode 25 miles (40.25 kilometers) in an open truck exposed to the sun and cold wind. The following morning he awoke with slightly tender and reddened nose, malar eminences and ears. The redness and tenderness increased in severity during the next few days and progressed into a mild, weeping erythema with superficial crusting. A few scattered areas of superficial pustular infection developed on his face. The dull purple discoloration and induration on the dorsa of the hands remained the same. He was admitted to a local station hospital February 18 with a diagnosis of impetigo of the face and dermatitis of the hands.

The erythema and infection responded well to boric acid soaks but did not completely subside. The pu-

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lar lesions involving his face and neck persisted, and on February 26 doses of 1 Gm. of sulfadiazine four times a day were started. The following day the facial erythema recurred, and two days later a superficial brown crusting developed in the same areas. He continued to go to the mess hall and to sit out in the sun during the warm part of the day. His appetite progressively decreased, and he did not feel well generally. On March 5, seven days after oral administration of sulfadiazine had been started, he felt chilly and became severely ill with a generalized headache, mental dulness almost approaching a stupor, generalized muscular aching, anorexia, restlessness, lack of energy and weakness. The facial erythema, tenderness, weeping and crusting increased, to become more severe at this time than any other during his illness. The diffuse purple induration involving the dorsa of the hands became slightly intensified for the first time since its onset.

The use of sulfadiazine was discontinued the following day, with immediate general improvement. The intense muscular aching subsided, and his appetite and strength improved. The urine, which on the patient's admission to the hospital was normal, contained on March 5 albumin (3 plus) and a few pus cells. The sedimentation rate was 39 mm. by the Westergren method, and the leukocytes numbered 3,650 with a normal differential count. The temperature remained between 99 and 100 F. Daily urinalysis revealed albumin (2 plus), varying numbers of leukocytes and a few red cells. The nonprotein nitrogen content of the blood on March 11 was 55 mg. per hundred cubic centimeters. General improvement was rapid. The nonprotein nitrogen content dropped to 35 mg. per hundred cubic centimeters by March 14, and on March 15 the patient was transferred to a general hospital for treatment of acute disseminated lupus erythematosus. During the last few days of February and the first half of March he lost 18 to 20 pounds (8.2 to 9.1 Kg.) of weight. He was reared on an Iowa farm and had been accustomed to working long hours exposed to the wind and sun without illness.

On admission to the general hospital this red-haired, fair-skinned soldier had an extensive, diffuse erythema of his face, forehead, ears and postauricular regions with adherent light brown crusts superimposed over the bridge of his nose, malar eminences and ears. Scattered over his face were a few lesions of impetigo in various stages of development, and he had a few isolated areas of low grade folliculitis on the posterior portion of his neck. In addition, there were several early lesions of impetigo on his right forearm and on both shoulders and lower extremities. The dorsa of the hands and proximal phalanges had a mild, diffuse, purple discoloration. His temperature varied between 99 and 100 F. The erythrocytic sedimentation rate was 55 mm. by the Westergren method, and the leukocytes numbered 7,500, with a normal differential count. The urine contained albumin (3 plus), numerous leukocytes and a few erythrocytes. Cultures of the cutaneous lesions involving the face and extremities grew pure Staphylococcus aureus haemolyticus. The ocular fundi were normal. Blood protein values and red cell and platelet counts were within normal limits. The blood pressure was 120 systolic and 70 diastolic.

The cutaneous lesions were treated with soaks in 1:9,000 solution of potassium permanganate, and baths and exposure to sunlight were prohibited. The facial weeping and erythema improved rapidly, with complete disappearance of all cutaneous lesions by April 1. However, the urine continued to contain albumin (2 plus), numerous pus cells and a few red cells. The sedimentation rate remained 50 mm. per hour, and the temperature rose to 99 to 100 F. The dermatitis of the hands had disappeared completely for the first time since its onset during January 1944. Urologic investigation with retrograde pyelograms revealed a normal urinary tract. Bacteriologic studies of urine obtained from each ureter grew pure Staph. aureus haemolyticus.

Since the bilateral infection of the urinary tract with staphylococci could not be treated with sulfadiazine because of the man's sensitivity, a course of penicillin was given in 30,000 unit doses intramuscularly every three hours during a period of six days for a total dosage of 1,500,000 units. Penicillin was tested in vitro and found potent against the organism isolated from the urine. The slightly elevated temperature was unaffected, and the urine continued to have albumin (2 plus) with many pus cells and a few red cells. Repeated cultures of urine after the course of penicillin showed no growth.

This man was boarded to the zone of interior but was observed for an additional three weeks while awaiting transportation. During this time he continued to have an occasional rise in temperature to 99.2 F. and a sedimentation rate of 50 mm. per hour. There were no recurrences of the erythema involving his face and hands even though exposure to direct sunlight was allowed. The folliculitis involving his neck and the scattered areas of impetigo did not return. Patch tests with sulfadiazine powder and 5 per cent sulfadiazine ointment protected from and exposed to the sun gave negative results.

COMMENT

The severe systemic and cutaneous reaction of this patient to sulfadiazine ingested orally and the disappearance of these complications following the withdrawal of sulfadiazine would indicate a form of drug sensitivity. The exact time the sensitization was acquired was obscured by the prolonged duration of the cutaneous infection and the varying and intermittent use of topical medication. Systemic as well as cutaneous sensitivity to drugs topically applied is well known. The possibility that this patient received a sulfonamide compound while hospitalized during August 1943 and acquired a sensitivity at that time could not be overlooked.

Photosensitization caused by sulfonamide drugs and their metabolic or conjugated derivatives has been observed and reported. The part of mechanical irritants is more obscure. The sudden appearance of the symmetric lesions of the hands after the patient's exposure to cold in an open railroad car was suggestive of a form of sensitivity.

Cutaneous involvement, generalized aching, anorexia, clouding of the sensorium, fever, leukopenia, renal involvement to the extent of impaired function and severe prostration are characteristic of the clinical picture ascribed to acute disseminated lupus erythematosus. This patient did not show clinical evidence involving the endocardium or the joints or other areas with

serous linings, as is common in this disease syndrome.

The primary pathologic lesion of disseminated lupus erythematosus is chiefly vascular, with a predilection for capillaries and to a lesser extent for venules and smaller arteries; the renal lesion is confined largely to the capillary-like glomerular tuft. In the case reported the isolation of bacteria from the urine of each kidney complicated a clinical interpretation. The staphylococci obtained would indicate a bilateral pyelonephritis. It is probably more than coincidental that the organism obtained from the secondarily infected cutaneous lesions and that obtained from the urine of each kidney were identical. Glomeruli already irritated and damaged by a hypersensitivity reaction and subjected to hematogenic transmission of the organism would provide a suitable site for bacterial growth. It should be noted that the cultures of urine made after the therapeutic course of penicillin produced no growth. This negative reaction would indicate that the bacterial infection of the kidneys was not sufficiently severe to account for the continued presence in the urine of the large quantities of albumin, the leukocytes and the red cells, all of which are evidences of the effects of glomerular involvement. Continuous low grade fever and persistently elevated erythrocytic sedimentation time are compatible with the entity of disseminated lupus erythematosus. The reaction is similar in some respects to that of glomerular nephritis, in which the glomerular capillaries become unusually susceptible and reactive to toxins produced elsewhere in the body.

These evidences offer further support to the suggestion of Fox[6] that disseminated lupus erythematosus is a disease entity having a sensitization reaction pattern caused by a variety of agents or by a combination of interrelated factors. The fact that recognition and withdrawal of the antigen are followed by immediate improvement without further exacerbation offers hope for complete recovery of this patient in time.

SUMMARY AND CONCLUSIONS

An unusual case of sulfadiazine sensitivity was observed in which the reaction was similar to the disease entity of acute disseminated lupus erythematosus.

This case presents further evidence that the curious entity of disseminated lupus erythematosus is a specific reaction pattern of prolonged sensitivity to a variety of antigens activated or accentuated by actinic rays or other irritants.

CUTANEOUS LEISHMANIASIS (ORIENTAL SORE)

V. EXPERIMENTAL CANINE CUTANEOUS LEISHMANIASIS

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Khodukin (1928),[1] Khodukin and Sofieff (1928),[2] Khodukin and Shevtchenko (1928),[3] Sofieff and Shevtchenko (1934),[4] Shevtchenko and Radzivilovsky (1934) [5] and Ajello (1930) [6] stated that they considered Leishmania canis identical with Leishmania donovani and asserted that localized cutaneous leishmaniasis does not exist in dogs. They considered cutaneous lesions found on dogs to be cutaneous manifestations of canine kala-azar. Sofieff and Shevtchenko [4] and Shevtchenko and Radzivilovsky [5] also claimed that in canine kala-azar cutaneous lesions might at times even precede visceral involvement though they are usually delayed manifestations of generalized kala-azar. On the other hand, Mills, Machattie and Chadwick (1930),[7] Adler and Theodor (1930),[8] Sinton and Shortt (1934) [9] and Shah (1941) [10] have described localized cutaneous leishmaniasis in dogs as being comparable to oriental sore in human beings and not associated with visceral changes. Machattie and Mills (1931) [11] reported that oriental sore is common in dogs in Baghdad. They also reported the occurrence of oriental sore on domestic cats and on bears kept in captivity. Latyshev and Kriukova (1941) [12] demonstrated that in the subtropical regions of the Soviet Union, especially in the rural districts of Middle Asia (former Russian Turkestan), the "moist" type of oriental sore with early ulceration (Pendeh or Sart sore) is essentially a disease of wild rodents, chiefly gerbils, which is transmitted to human beings by sandflies breeding in the burrows of these rodents. No such reservoir has been found for the "dry" type of oriental sore (Ashkabad or Kokand sore). To clarify this problem I studied the infectivity to dogs of strains of Leishmania tropica cultured from human beings.

EXPERIMENTAL STUDIES

Having found it difficult to infect adult dogs artificially, I used pups. They were of mixed breed and were 1 to 5 months old. Heavy suspensions of L. tropica in isotonic solution of sodium chloride were prepared from cultures of varying ages. The usual technic was

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The first paper in this series was published in the June 1944 issue of the ARCHIVES (page 433) and the second, third and fourth in the October issue (pages 231, 233 and 234).

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to inoculate the suspension intracutaneously at various points, on the external and internal surfaces of the ears and the inner surfaces of the thighs. Sometimes intraperitoneal injections were also given simultaneously. When the cutaneous lesions were sufficiently advanced, autopsy was performed on the animals, and their organs were carefully examined for leishmanias.

Pup 1.—On Nov. 11, 1937 a 2 month old male pup was inoculated intracutaneously with 1 cc. of a saline suspension of living leishmanias. The inoculum consisted of a one hundred and fifteen day old primary culture, containing approximately 3,000,000 leishmanias per cubic centimeter. Injections of 0.1 cc. were made into each of three separate points on each ear, the inner surface of the tip of the ear and two points equidistant from it. Also 0.1 cc. was injected into two separate points 3 cm. apart on the skin of the inner aspect of each thigh. In addition, 0.5 cc. of the same suspension was injected intraperitoneally.

On April 10, 1938, one hundred and fifty days after inoculation, three sores were present, each about 1 cm. in diameter. Two of these sores were located at the tip of the ears, and the third one was on the inner aspect of the left thigh. All three sores were only recently ulcerated. All three showed leishmanias in smears. No enlargement of the spleen or liver could be detected. A smear of material obtained from puncture of the liver did not reveal leishmanias.

On June 17, 1938, one hundred and ninety-eight days after inoculation, the animal was killed and autopsy performed. A "formol-gel" test on the heart blood elicited a negative reaction. Smears and sections from localized cutaneous lesions showed numerous leishmanias, but none could be found in the spleen, liver, bone marrow or lymph nodes.

Pup 2.—On July 6, 1938 a 4 month old male pup was inoculated with 1.5 cc. of a suspension of L. tropica culture containing about 5,000,000 leishmanias per cubic centimeter. The suspension was a mixture of four culture tubes of my Baghdad strain of L. tropica. The individual cultures were as follows: a forty day old second subculture from a seventeen day old first subculture from a seven day old primary culture; a ten day old third subculture from a thirty-one day old second subculture from a seventeen day old first subculture from a seven day old primary culture; a fifty-five day old first subculture from a seven day old primary culture, and a fifty-nine day old primary culture. Of this suspension 0.2 cc. was injected into the skin of the inner aspect of the left thigh, 0.2 cc. into the right thigh, 0.2 cc. into the inner aspect of the left foreleg, 0.2 cc. into the right foreleg, 0.2 cc. into the inner aspect of the right ear and 0.5 cc. intraperitoneally.

On Nov. 24, 1938, one hundred and forty-one days after the inoculation, no lesions could be detected anywhere except a slight induration on the margin of the right ear.

On Feb. 6, 1939, two hundred and fifteen days after the inoculation, there was a small ulcerated nodule, about 5 mm. in diameter, on the margin of the right ear. Smears from it showed numerous leishmanias. The liver and spleen were not palpable. A puncture of the liver was made, and smears were negative for leishmanias. A "formol-gel" test on heart blood elicited a negative reaction. Autopsy was performed on the animal, and smears were made from the spleen, liver, bone marrow and lymph nodes. These did not show leishmanias.

Pup 3.—On July 19, 1938, a heavy saline suspension of L. tropica culture was prepared, containing approximately 5,000,000 leishmanias from fifty-four and twenty-five day old primary cultures of my Baghdad strain. One cubic centimeter of this suspension was inoculated into the skin of the margins of both ears and into that of the inner aspects of the thighs, as in pup 1, and 0.5 cc. was injected intraperitoneally.

On Oct. 20, 1938, ninety-three days after the inoculation, definite thickenings were noted over the margins of both ears.

On Nov. 22, 1938, one hundred and twenty-six days after the inoculation, the thickenings were more pronounced and were associated with some degree of scaling (fig. 1). Smears from these indurated areas showed numerous leishmanias. No such induration was noted in the inner aspect of the thighs.

On Dec. 16, 1938, one hundred and fifty days after the inoculation, a puncture of the liver was made, which did not reveal any leishmanias.

On Feb. 7, 1939, two hundred and three days after the inoculation, the lesion on the margin of the left ear was ulcerated. It was about 3 cm. in length. On the inner aspect of the left ear there was a nonulcerated nodule. Autopsy was performed, and the viscera and skin from other areas of the body of the animal were carefully examined for leishmanias, with negative results. A "formol-gel" test on heart blood elicited negative reactions.

Fig. 1.—Indurated, scaly, nonulcerated experimental oriental sore, one hundred and twenty-six days after inoculation (pup 3).

Pup 4.—On July 19, 1938, a 5 month old male pup was inoculated intracutaneously with 1 cc. of the same suspension of leishmanias that was used for pup 3, and the injections were given into the corresponding sites. Five-tenths cubic centimeter of the suspension was also inoculated intraperitoneally.

On October 20, ninety-three days after the inoculation, a small papule was visible at the margin of the right ear.

On November 22, one hundred and twenty-six days after the inoculation, the papule was ulcerated (fig. 2). A smear from the ulcer showed numerous leishmanias. The following day the pup was found dead. Autopsy was performed, and smears prepared from viscera and lymph nodes were all negative for leishmanias.

Pup 5.—On Aug. 15, 1938 a 3 month old pup was inoculated with 1.5 cc. of a suspension of L. tropica containing approximately 5,000,000 leishmanias per cubic centimeter. The inoculum consisted of a twenty-six day old primary culture of a Damascus strain of L. tropica.

This amount was injected into twelve different points in the internal and external surfaces of both ears, and 5 cc. was also injected intraperitoneally.

On December 16, one hundred and twenty-three days after the inoculation, no lesions could be detected.

On Feb. 6, 1939, one hundred and seventy-five days after the inoculations, five papules were visible on the right ear, varying from 8 to 15 mm. in diameter (fig. 3*A*), and one small nodule, 6 mm. in diameter, was found on the left ear (fig. 3*B*). All the nodules showed numerous leishmanias. The "formol-gel" reaction of heart blood was negative. The animal was then studied at autopsy, and smears and sections from the viscera, lymph nodes and skin were examined for leishmanias, with negative results.

Pup 6.—On Feb. 7, 1939 a 2 month old pup was inoculated with 0.6 cc. of a suspension of living culture of L. tropica. The inoculum consisted of a twenty-seven day old primary culture of L. tropica isolated from an oriental sore acquired in Jericho, Palestine. Intracutaneous injections (0.1 cc.) were made into three different points in the skin of each ear, as in pup 1. In addition, 0.5 cc. of the same suspension was injected intraperitoneally.

Fig. 2.—Ulcerated experimental oriental sore, one hundred and twenty-six days after inoculation (pup 4).

On June 15, 1939, one hundred and twenty-eight days after the inoculation, three flat papules were definitely visible, two on the right (fig. 4) and one on the left ear. Smears from these papules shower numerous leishmanias.

On November 12, two hundred and seventy-eight days after the inoculations the pup died of an intercurrent infection. The sores were still present. They had not ulcerated, and numerous leishmanias were observed in smears and in sections. Careful examination of smears and sections from lymph nodes, spleen, liver and bone marrow as well as from the skin of the abdomen failed entirely to reveal leishmanias. Serum separated from clotted heart blood gave a negative "formol-gel" reaction.

Pups 7, 8, 9 and 10.—On Aug. 2, 1939 4 month old pups from the same litter were each inoculated intracutaneously on the inner side of the ears, on the back and on the inner aspects of the thighs with a suspension of culture of L. tropica. The inoculum consisted of material from seven day old fourth subcultures from a one hundred and forty-eight day old third subculture from a one hundred and thirty-three day old second subculture from a fourteen day old first subculture from a seventeen day old primary culture and contained approximately 5,000,000 leishmanias per cubic centimeter. The culture was originally isolated from an artificially produced sore on a volunteer. A total volume of 1 cc. of the suspension was injected into the skin of each pup, in corresponding areas of the skin as in pup 1.

On Dec. 5, 1939, one hundred and twenty-five days after the inoculation, all 4 pups showed numerous cutaneous lesions at the sites of the inoculations. These were rather flat papules showing some degree of scaling.

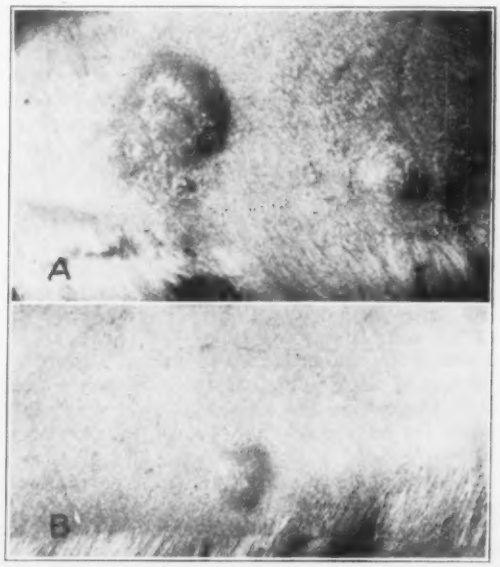

Fig. 3.—*A*, two of five papules of experimentally produced oriental sores on the right ear of pup 5 one hundred and seventy-five days after inoculation; *B*, experimental oriental sore on the left ear of the same animal, one hundred and seventy-five days after inoculation.

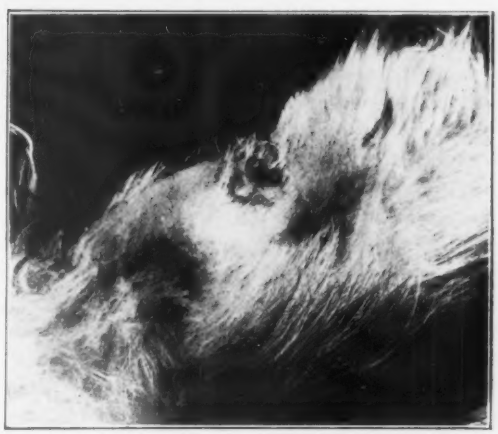

Fig. 4.—Two experimental oriental sores on the right ear of pup 6, one hundred and twenty-six days after inoculation.

On Feb. 20, 1940, two hundred and two days after the inoculation, some of the nodules were just beginning to ulcerate. Leishmanias could be demonstrated in all the lesions, but they could not be found in the skin of the legs where no inoculations were made. The pups were subjected to autopsy, and smears were made. Leishmanias could not be found in any of the smears

from the spleen, liver, bone marrow and lymph nodes. "Formol-gel" reactions of serum from the heart blood of all 4 pups were negative.

Dog 11.—This was a young dog more than a year old and weighed 5 Kg. On Aug. 4, 1940 it was inoculated with 1 cc. of suspension of living culture of L. tropica, containing approximately 3,000,000 leishmanias per cubic centimeter. The inoculum consisted of an eighteen day old sixth subculture from a twenty-four day old fifth subculture from a ten day old second subculture from an eighteen day old first subculture from a fifteen day old primary culture of a Damascus strain of L. tropica isolated from an artificial sore on a volunteer. Injections of 0.1 cc. of the suspension were made into the corresponding areas of the skin as in animal 1. In addition, 1 cc. of the same suspension was injected intraperitoneally.

On Dec. 5, 1940, one hundred and thirteen days after the inoculation, no cutaneous lesions were found.

On May 26, 1941, two hundred and eighty-five days after the inoculation, the dog was examined and it showed only a single indurated spot on the margin of the right ear. No other lesions could be found. A smear from this nodule showed numerous leishmanias. Smears from other sites of the skin and smears at autopsy from the viscera, lymph nodes and the bone marrow were entirely negative for leishmanias. The "formol-gel" reaction was negative.

The intracutaneous and intraperitoneal inoculations of L. tropica induced no visceral lesions. The development of only a single small papule on the skin may have been due to age-induced immunity, as this animal was much older than the others.

COMMENT

Intracutaneous inoculation of suspensions of living culture of L. tropica from human sores (Jericho, Baghdad and Damascus strains) into 10 pups and 1 adult dog gave rise to localized cutaneous lesions. Seven of the pups also received heavy doses of L. tropica by the intraperitoneal route. None of the pups showed any evidence of visceral involvement, nor was it possible to find leishmanias elsewhere in the skin. "Formol-gel" tests were performed on 10 animals, all with negative results. "Formol-gel" tests performed on serums from human patients with oriental sore have also been repeatedly negative, in conformity with the experience of Senekji and Beattie (1941),[13] whereas it is known that the "formol-gel" test frequently elicits a positive reaction in dogs with kala-azar. In 2 cases of natural infection with canine kala-azar that I have studied, the "formol-gel" reactions were strongly positive.

It was not difficult to infect pups artificially, but I have repeatedly failed to infect grown dogs. I succeeded only in producing a single sore in a dog just over 1 year old (dog 11); this suggests that with age dogs acquire some degree of immunity against oriental sore. Age does not seem to confer immunity in human beings, as it is easily possible to produce artificial sores in young as well as in old persons.

Adler and Theodor (1930) [8] reported on a converse experiment. They inoculated a man with cultures from a naturally occurring oriental sore on a dog. This inoculation gave rise to a purely cutaneous lesion in the volunteer.

There is no doubt that canine kala-azar is frequently associated with extensive cutaneous involvement, especially in the late stages of the disease. Such cutaneous lesions are on the whole much more extensive, and Leishman-Donovan bodies have been frequently demonstrated in the histiocytes of the skin from places where no macroscopic lesions are demonstrable. The association of canine kala-azar with infantile kala-azar in endemic foci of the latter disease has been reported by numerous investigators. The association of purely cutaneous leishmaniasis in dogs in hyperendemic foci of oriental sore in Iraq has been stressed by Mills, Machattie and Chadwick (1930),[7] by Sinton and Shortt in India (1934) [9] and by Shah (1941) [10] in Delhi. My experiments showed that canine cutaneous leishmaniasis, comparable to oriental sore in human beings, can be artificially produced, and this lends support to the conclusion that it occurs per se in nature. It must be remembered, however, that cutaneous leishmaniasis of dogs and cats has not been reported from all the endemic foci of oriental sore, and, moreover, its incidence in regions from which reports are available is not high; hence dogs and cats cannot be regarded as important reservoir hosts of the infection. A search for carriers among the wild burrowing rodents might therefore yield promising results. Issayev (1941) [14] also noted that dogs acquire typical oriental sore when experimentally infected with L. tropica. The question regarding natural oriental sore of dogs and their epidemiologic role is not yet clear and stands in need of further investigation.

From the previous discussion it becomes evident that it is necessary to distinguish between localized canine cutaneous leishmaniasis—oriental sore of dogs—and cutaneous leishmaniasis in dogs which is a manifestation of canine kala-azar, as well as to distinguish between Leishman-Donovan bodies from canine kala-azar and leishmanias from canine oriental sore. Khodukin and Sofieff (1928) [2] considered Leishmania canis isolated from canine kala-azar identical morphologically and serologically with L. donovani and

13. Senekji, H. A., and Beattie, C. P.: Artificial Infection and Immunization of Man with Cultures of Leishmania tropica, Tr. Roy. Soc. Trop. Med. & Hyg. **34**:415-419 (May) 1941.

14. Issayev, L. M.: Cutaneous Leishmaniasis in Dogs in Problems of Cutaneous Leishmaniasis, Ashkabad, 1941, pp. 263-264.

distinct from L. tropica. In order to avoid confusion, I recommend the following nomenclature for leishmanias found in dogs: Leishmania donovani var. canina (Berberian, 1944) [15] for leishmanias isolated from animals with canine kala-azar and Leishmania tropica var. canina (Yakimoff and Schokhor, 1914) [16] for leishmanias isolated from animals with canine oriental sore.

CONCLUSIONS

It has been possible to produce artificial oriental sores in pups by the intracutaneous inoculation of suspensions of living culture of L. tropica of Jericho, Baghdad and Damascus strains of human origin. In none of the 11 pups successfully inoculated was there found any evidence of generalization or visceral involvement, in spite of the fact that 7 of the pups also received intraperitoneal inoculations simultaneously. Strictly cutaneous lesions were produced, and these were confined to some of the sites of the inoculation. "Formol-gel" reactions of the serums of infected pups were uniformly negative. Young dogs were found much more susceptible than old ones, which indicates the existence of age-induced immunity in grown dogs. In human beings age does not seem to confer immunity against artificial oriental sores.

It is suggested that leishmanias isolated from localized cutaneous sores of dogs be called Leishmania tropica var. canina (Yakimoff and Schokhor, 1914) in contradistinction to those from canine kala-azar for which the name of L. donovani var. canina is recommended.

Dr. E. W. Dennis, chairman of the department of parasitology and bacteriology, gave valuable advice and read the manuscript.

15. Berberian, D. A.: Vaccination and Immunity Against Oriental Sore, Tr. Roy. Soc. Trop. Med. & Hyg. **33**:87-94 (June) 1939.

16. Yakimoff, W. L., and Schokhor, N. I.: Recherches sur les maladies tropicales humaines et animales au Turkestan: I. Repartition de la leishmaniose canine au Turkestan; II. La leishmaniose cutanée (bouton d'orient) spontanée des chiens du Turkestan, Bull. Soc. path. exot. **7**:185-186, 1914.

ENDOCRINE INFLUENCE ON THE RADIOSENSITIVITY OF THE SKIN AND THE THYROID

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Endocrine influence on the sensitivity of the human skin to roentgen rays was recognized early in the history of roentgen therapy. The increased radiosensitivity of the skin of patients with hyperthyroidism soon became a matter of concern to the radiotherapeutist. Careful studies of cutaneous sensitivity to roentgen rays, conducted to establish a more definite skin unit dose, brought to light many other conditions, such as the increased radiosensitivity of the skin premenstrually and during pregnancy and changes in radiosensitivity at puberty (Flaskamp [1]). All of these conditions definitely pointed to the importance of the sex glands as factors determining cutaneous resistance to radiation. In general it can be said that certain organic and constitutional diseases, especially those affecting the vasomotor system or the sympathetic nervous system (MacKee [2]), influence the radiosensitivity of the skin. It is noteworthy that the same conditions exercise similar effects with respect to sensitivity of the skin to ultraviolet rays (Ellinger [3] and Saidman [4]). The sudden increase in sensitivity to ultraviolet rays in early spring (Ellinger [3a]) is another interesting fact pointing toward endocrine influences on radiosensitivity of the skin.

The accumulated clinical evidence of endocrine influences on cutaneous radiosensitivity, as just listed, seems to point to the thyroid as a predominantly governing factor, for the following reasons:

1. The thyroid is generally recognized to exercise influence on the capillaries.

2. The thyroid and the sex organs interact closely.

3. The response of the thyroid to climatic influences is profound.

Experiments on rabbits (Ellinger [5]) seem to support the belief in the importance of the thyroid in radiosensitivity of the skin. Injections of thyroxin, which produced a decided loss of body weight, brought about a statistically relevant increase of cutaneous effects with the use of roentgen rays on the rabbits' ears. Thyroidectomy, on the other hand, diminished these effects and also prevented the seasonal variations in the response of the rabbits' skins to roentgen rays.

The case presented in this paper seems to offer further proof of the contention that the thyroid predominates in determining radiosensitivity of the skin in human beings.

REPORT OF A CASE

The patient is a 19 year old American-born girl of Italian parentage, with dark blond hair and blue eyes. Both parents are light complexioned and have blond hair. The maternal grandmother and the mother both suffered from thyrotoxicosis.

At the age of 9 years, the patient began to show nervousness, restlessness and had clammy hands and swelling of the neck (thyroid). Her appetite was poor. The conditions were aggravated in the spring of 1934 to such an extent that she was not able to concentrate on work and had to interrupt her attendance at school. At this time the patient was so sensitive to sunlight that exposure of a few minutes produced severe reddening of the skin and even blistering and dizziness.

From the Department of Radiology, Long Island College of Medicine.

1. Flaskamp, W.: Ueber Röntgenschäden und Schäden durch radioaktive Substanzen, Berlin, Urban & Schwarzenberg, 1930.

2. MacKee, G. M.: X-Ray and Radium in the Treatment of Diseases of the Skin, Philadelphia, Lea & Febiger, 1940.

3. Ellinger, F.: (*a*) Die Lichtempfindlichkeit der menschlichen Haut, ihre Bestimmung und Bedeutung für die lichtbiologische Konstitutionsforschung, Strahlentherapie **44**:1, 1932; (*b*) The Biologic Fundamentals of Radiation Therapy, translated by R. Gross, New York, Elsevier Publishing Co., 1941.

4. Saidman, J.: La sensitométrie cutanée, Paris, Gaston Doin & Cie, 1930.

5. Ellinger, F.: Untersuchungen über die Hautwirkungen von Röntgenstrahlen am Kaninchen: I. Die Wirkungen einer mittelharten Strahlung und ihre Beeinflussung durch Thyroxin, Strahlentherapie **43**:358, 1932; II. Weitere Untersuchungen über die Wirkung mittelharter Strahlung am Kaninchenohr, ibid. **47**:517, 1933; III. Die Wirkung einer harten Strahlung und ihre Beeinflussung durch Tonephin, ibid. **47**:727, 1933; IV. Die Bedeutung der Schilddrüse für den Ablauf der Hautreaktionen bei mittelharter Strahlung, ibid. **48**:97, 1933.

Medical advice was sought, and a fish diet and therapy with an iodine preparation were recommended.

At the age of 10½ years (July 1934), partial thyroidectomy with removal of three quarters of the right lobe was performed at the Long Island College Hospital by Dr. B. Cissel. The examination of the gland showed a cellular hyperplastic structure with relatively little colloid. The acini were enlarged and were lined by tall columnar hyperplastic cells which possessed deeply staining nuclei. The colloid in the acini stained rather deeply. The blood supply was rich, and the supporting stroma was somewhat increased. In the stroma were a few lymphoid accumulations. In some areas the hyperplasia was much greater than in others.

After an uneventful recovery from the operation the patient returned to school.

In the spring of 1937 new aggravation of thyrotoxic symptoms appeared, with nervousness, palpitation, dyspnea, tremor and loss of weight. The patient, then in high school, complained again of inability to concentrate.

At the age of 13½ years (July 1937) she was again admitted to the Long Island College Hospital. The left lobe of the thyroid was then moderately enlarged, lobular, firm and vascular. Approximately two thirds of the left lobe was removed by Dr. Cissel. After uneventful recovery, the patient resumed her school work and finally graduated from high school with high marks.

On Thanksgiving day of 1937 menarche occurred. The menstrual cycle was regular, and the flow lasted for six days.

After the second operation the patient felt well but noticed continuous increase in weight. She observed, furthermore, that she now tolerated exposure to sunlight well. After an erythema developed, no blistering occurred, and the erythema was followed by pigmentation.

About three years ago, at the age of 16 years, the patient noticed increasing irregularity of the menstrual cycle, manifesting itself in prolonged intervals and scanty flow, associated with increased deposit of fat about the hips. Her present appearance is disproportionate for her age, and her figure could be best characterized as matronly.

COMMENT

This history is of special interest because conditions permit a clearcut evaluation of the influence of the thyroid on the radiosensitivity of the skin. In my previous studies on the sensitivity of the human skin to ultraviolet rays[6] based on the observation of more than 1,200 persons, I was able to establish the fact that the skin of children between 6 and 12 years of age is about 50 per cent less sensitive than is the skin of persons between 20 and 50 years of age. With due consideration of the fair complexion of the patient, the fact that blistering appeared after an exposure to sunlight of only a few minutes (an indication of sensitivity unusual even in an adult) must be considered entirely abnormal in a child of 9 years of age. While the usual course is an increasing radiosensitivity as puberty approaches, this patient exhibited progressively decreasing radiosensitivity with increasing age. It seems, therefore, that one is justified in assuming that the previous stage of increased radiosensitivity was due to the hyperactivity of the thyroid and that the decreased radiosensitivity during the further development was due to the operative elimination of the hyperfunction of this organ. At the same time this history offers additional data for the study of interaction of the thyroid and the sex organs and of the thyroid in relation to seasonal variations.

SUMMARY

A case was encountered in which extreme sensitivity of the skin to sunlight was reduced by thyroidectomy. This and other factors of the case seem to confirm for human beings conclusions drawn previously from experiments with animals concerning the predominance of the function of the thyroid gland in determining the resistance of the skin to radiations.

6. Ellinger, F.: Lichtbiologische Konstitutionsstudien, Forsch. u. Fortschr. **8**:15, 1932; footnote 3 *a*.

RAPID TREATMENT OF EARLY SYPHILIS WITH SMALL DOSES OF PENICILLIN

OBSERVATIONS IN ONE HUNDRED AND FIFTY-NINE CASES

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Since the report by Mahoney, Arnold and Harris [1] that penicillin is effective as a chemotherapeutic agent for early syphilis, the members of the medical profession have been eagerly awaiting appraisal of this drug. A subsequent report was given by Mahoney and his group [2] and a preliminary report by Moore and his associates [3] on the results of the treatment of early syphilis by members of the penicillin panel.[4] The panel, recognizing the necessity of determining optimal dosage and time schedules, assigned the University Hospital and the Cleveland City Hospital the schedules of treatment herein reported on as part of a larger investigation.

Before participating in the studies of the penicillin panel, we obtained sufficient penicillin for the treatment of 10 patients with early dark field–positive syphilis in October 1943.[5] The first 5 patients received 400,000 units of the drug intravenously in the first forty-eight hours and 800,000 units intramuscularly in doses of 20,000 units every three hours for five days, making a total dose of 1,200,000 units. The second 5 patients were given 20,000 units intramuscularly every two hours for five days, making a total of 1,200,000 units. Of these 10 patients, 7 have been followed for one year, and at this writing all of the observed patients are seronegative and clinically well.

At the beginning, our group was assigned by the panel a schedule of 1,000 units of penicillin to be given every three hours over seven and one-half days for the treatment of dark field-positive syphilis. This total dose of 60,000 units was soon found inadequate. Then mapharsen, 40 mg. daily for a total of 320 mg., was added to this dose of penicillin for another series of patients. Later 5,000 units of penicillin was given every three hours for a total dose of 300,000 units. This report concerns primarily results in these groups of patients. All had early dark field–positive syphilis. Healing of the chancres and the exanthems of early syphilis with the 60,000 unit total dose is much slower than with the 1,200,000 unit dose of penicillin. The healing of the lesions with the 300,000 unit total dose approaches that with the larger doses of penicillin. Results of dark field examinations became negative in seven to forty-eight hours with both the 60,000 and the 300,000 unit schedule. However, the disappearance time of the spirochetes tended to be longer with the 60,000 unit plan. At the time of writing these treatment schedules have been discontinued, and larger doses of penicillin are being used.

From the Department of Dermatology and Syphilology, Western Reserve University School of Medicine, Cleveland City and University Hospitals, Harold N. Cole, M.D., Director.

1. Mahoney, J. F.; Arnold, R. C., and Harris, A.: Penicillin Treatment of Early Syphilis, Am. J. Pub. Health **33**:1387 (Dec.) 1943.

2. Mahoney, J. F.; Arnold, R. C.; Sterner, B. L.; Harris, A., and Zwally, M. R.: Penicillin Treatment of Early Syphilis, J. A. M. A. **126**:63 (Sept. 9) 1944.

3. Moore, J. E.; Mahoney, J. F.; Schwartz, W.; Sternberg, T., and Wood, W. B.: The Treatment of Early Syphilis with Penicillin, J. A. M. A. **126**:67 (Sept. 9) 1944.

4. Penicillin panel of the subcommittee on Venereal Diseases, National Research Council.

5. The penicillin was provided by the Office of Scientific Research and Development from supplies assigned by the Committee on Medical Research for clinical investigations recommended by the Committee on Chemotherapeutics and Other Agents of the National Research Council.

The table gives a summary of the results of observation of the three groups of patients.

Data for Three Schedules of Penicillin Therapy

	60,000 units	60,000 units plus 320 mg. mapharsen 40 mg. daily for 8 days	300,000 units
Total patients	31	47	81
Color and sex			
Male White	1	3	9
Black	11	23	36
Female White	2	2	5
Black	17	19	31
Herxheimer reactions			
Febrile	14	27	46
Cutaneous	12	11	15
Total	26 (84%)	38 (80.8%)	61 (75.3%)
Lapsed over 3 months	10	11	32
Check-up in last 3 months	21	36	49
Seronegative and clinically well	2	12	22
Reinfections	0	0	0
Seorelapse only	5	5	12
Seorelapse and clinical relapse	13	10	9
Clinical relapse only*	0	2	0
Neurosyphilis			
Asymptomatic	4	4	1
Symptomatic	1	0	2
Pregnancies treated	3	1	4
Delivered nonsyphilitic infant	3	0	0
Delivered syphilitic infant	0	1	1†
Outcome of infant			
Pending	0	0	3
Pending ‡	0	3	3

* Seronegative but new dark field-positive lesion appeared.
† Infant had congenital syphilis; treated with 600,000 units of penicillin; apparent good results.
‡ Many of this group are showing a decreasing titer but are not seronegative.

COMMENT

The optimal dose of penicillin is still unknown, but much information is being accumulated by numerous investigators.

The percentage of relapses of all types in ten months' observation of a series of patients receiving 60,000 units is 81. It is realized that the period of observation is too short to permit us to give final totals for relapse; nevertheless, we believe it can be stated definitely that the schedule of 60,000 units of penicillin given over seven and one-half days is not adequate treatment. The same can be said when 320 mg. of mapharsen is added to this schedule, for the total relapses in nine months' observation is 60 per cent. If the total dose of penicillin is increased to 300,000 units over seven and one-half days, it is still below the curative level. In six months of observation, 22, or 45 per cent of the 49 whom we checked, already had relapsed. Undoubtedly, additional relapses will occur among these groups as they are observed for longer periods. Many of these will come from the "pending" and "lapsed" groups. The fact that lesions healed rapidly and positive dark fields became negative under these schedules is misleading. These patients have relapses at a rate far too high to make these schedules worthy of further trial. The dosage used in the series tabulated was below the curative level.

The patients took penicillin therapy readily. Seldom was discomfort experienced, in spite of the fact that injections were given every three hours for seven and one-half days. A few lots of the drug caused some pain at the site of injection, but this was exceptional and has been overcome. The drug was dissolved in isotonic solution of sodium chloride.

A large percentage of the patients had febrile and cutaneous Herxheimer reactions. These were never severe, and treatment was always continued. In 1 patient typical erythema nodosum lesions developed while under treatment, but the plan of treatment was completed.

These small and apparently inadequate dosage schedules may possibly do harm. Dunham, Hamre, McKee and Rake [6] have shown that in rabbits insufficiently treated a strain of spirochetes is produced that is more resistant to subsequent treatment with penicillin than is the original strain. However, in our experience relapses have responded to retreatment with 1,200,000 units as readily as untreated syphilis.

The healing of lesions with these smaller doses again emphasizes the importance of careful scrutiny for hidden early syphilis in all persons treated for gonorrhea with penicillin. The appearance of syphilis may be delayed by the doses of penicillin generally employed in the treatment of gonorrhea.

By contrast, the clinical and serologic response of the patients given 1,200,000 units of penicillin was good. Of the series of 10 patients receiving 1,200,000 units, 7 still under observation are all seronegative and clinically well. Even though they have been observed a year, relapses may still occur. Apparently these larger doses come closer to the optimal dosage required.

Penicillin given intravenously is rapidly excreted. If this disadvantage can be overcome,

6. Dunham, W. B.; Hamre, D. M.; McKee, C. M., and Rake, G.: Action of Penicillin and Other Antibiotics on Treponema Pallidum, Proc. Soc. Exper. Biol. & Med. **55**:158 (March) 1944.

intravenous injection may still become a method of administration of the drug for general use. It has been suggested that paraaminohippuric acid [7] be given in conjunction with penicillin when used intravenously. The excretory blockade produced by the acid may overcome this rapid excretion.

CONCLUSIONS

Four series of patients with early dark field–positive syphilis were treated with penicillin. Dosage schedules employing 60,000 units of penicillin alone or with the addition of 320 mg. of mapharsen—40 mg. given daily for eight days—were inadequate for the treatment of these patients. This is also true when 300,000 units of penicillin was used over the same period.

The most favorable results were obtained in 10 patients given 1,200,000 units of penicillin over five or seven days. Seven of the patients have now been observed a year, and all are clinically and serologically well.

The principal purpose of this paper is to report as inadequate the smaller dosage schedules assigned these clinics.

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7. Beyer, K. H.; Woodward, R.; Peters, L.; Verwey, W. F., and Mattis, P. A.: Prolongation of Penicillin Retention in Body by Means of Para-Aminohippuric Acid, Science **100**:107 (Aug. 4) 1944.

TREATMENT OF PITYRIASIS ROSEA WITH TRICHOPHYTON EXTRACT

A PRELIMINARY REPORT

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The clinical picture of pityriasis rosea is one often seen in dermatoses caused by fungi. Because of this, I assumed that pityriasis rosea might be of fungous origin. I treated 90 patients with this disease at the Skin and Cancer Unit of the New York Post-Graduate Medical School and Hospital with a 1:500 dilution of trichophyton extract.[1] All patients were tested for their sensitivity with 0.05 cc. of this extract intradermally, isotonic solution of sodium chloride being used as a control.

Ninety-five per cent of the patients proved sensitive to this dilution. Treatment was started forty-eight hours later. Intradermal injections of the same dilution were given three times a week in increasing doses (0.1, 0.15, 0.2, 0.25, 0.3 and 0.35 cc.) over a period of two weeks.

Itching, if it had been present, stopped after the second or third injection. The eruption disappeared entirely or was only faintly visible after three to six injections. Results were the same whether the eruption had been of a few days' or of several weeks' (two to twelve) duration. None of the patients showed any ill effect from treatment. Five per cent did not show improvement.

All patients were advised to avoid soap, to add starch to their baths and to stop wearing tight garments for the duration of treatment, as the lesions tended to persist at sites of friction and pressure. When pruritus was present, an antipruritic emulsion was prescribed for topical use.

A separate series of 20 patients was tested with a 1:30 dilution of trichophyton extract, and if their reactions to it were negative, the patients were treated with the same technic, 0.05 to 0.3 cc. being given in increasing doses. While many of these patients showed clearing in a spectacularly short time (often after one or two injections), strong local reactions occurred in others. In such patients the pruritus became more intense, the eruption became more generalized and the lesions showed a greater tendency to confluence. These reactions, I think, favor the theory of the fungous origin of pityriasis rosea.

As a control I have treated a small group of patients with a sterile solution of lactalbumin in colloidal form and another group with staphylococcus toxoid. In 1 of the 3 patients who were given four to six injections of 0.1 cc. of a sterile solution of lactalbumin[2] intradermally at two day intervals, the lesions cleared within ten to fourteen days. Two patients were treated with intramuscular injections of staphylococcus toxoid but did not improve. The number of these control patients is as yet insufficient to allow me to draw conclusions.[3] Results with these agents may eventually indicate whether the good results achieved with trichophyton extract were due to a specific action or whether it acted as a nonspecific agent.

My patients ranged from 2 to 60 years of age, the average being 36 years. Sixty-five were females; 45 were males.

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1. In order to obtain a 1:500 solution of trichophyton extract, I proceed as follows:

One vial of undiluted trichophyton extract and 3 vials of "Diluting Fluid" (both manufactured by Lederle Laboratories, Inc.), each containing 4.5 cc. of isotonic solution of sodium chloride, were lined up and their rubber caps properly swabbed with alcohol. Three 1 cc. syringes were sterilized. The three vials of diluting fluid were labeled as no. 1, no. 2 and no. 3. (*a*) Five-tenths cubic centimeter of the undiluted trichophyton extract was added to no. 1 vial of diluting fluid. Thus a 1:10 trichophyton solution was obtained. (*b*) Five tenths cubic centimeter of the 1:10 trichophyton solution was added to the no. 2 vial of diluting fluid. Thus a 1:100 trichophyton solution was obtained. (*c*) Five tenths cubic centimeter of the contents of the no. 3 vial of diluting fluid was withdrawn and discarded, and to the remaining 4 cc. of diluting fluid 1 cc. of the 1:100 trichophyton solution was added. Thus a 1:500 trichophyton solution was obtained.

2. The preparation used was Aolan (Duke Laboratories, Inc.).

3. Since July 7, 1944 I have treated 9 more patients with staphylococcus toxoid. These injections were given intradermally 0.1 cc. being given twice a week. The lesions of 7 of these patients cleared within ten to fifteen days.

Classification of the eruptions as follicular, circinate or fusiform types was not possible. None consisted of only one element, and it was frequently observed that in patients whose eruptions began as the follicular type fusiform or circinate lesions gradually developed.

Seventy-two of the patients had one herald patch; 7 patients had multiple herald patches, and 31 patients had none at all.

Thirty-seven patients suffered from itching.

One patient had pityriasis rosea for the second time within three years.

The face was involved in 15 patients, the neck in 33 and the scalp in 7. One patient had lesions of mucous membranes (the Wassermann and Kahn reactions being negative). Three patients had cervical adenitis.

The duration of the eruption when first observed varied between one and twenty weeks, the average being ten days.

SUMMARY

Ninety patients with pityriasis rosea were treated with highly diluted trichophyton extract. Injections were given intradermally in increasing doses at two day intervals. In all but 4 patients pruritus ceased after the second or third injection. The eruption itself disappeared or became only faintly visible after three to six injections.

Miss Esther Walzer, mycologic technician, gave technical assistance.

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LOCAL APPLICATION OF PENICILLIN FOR PYOGENIC DERMATOSES

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Shortly after the report by Robinson and Wallace[1] concerning the use of penicillium gauze in the treatment of cutaneous ulcers and infections, one of us (H. J. T.) began to use this method of treatment in his practice. The culture of penicillium notatum was furnished by David Singman, M.D., pathologist at the Cowel Memorial Hospital of the University of California, after he had checked it for its bactericidal activity in vitro.

We have used the penicillium gauze only for infected superficial ulcers, such as infected ulcers of the legs or ulcerative pyodermas or the deep type of pyoderma known as Bockhart's impetigo. There is no question in our minds that it is of great value in controlling infection in such cases, and it was used in 13. When it was apparent clinically that the lesions were solely or largely due to local infection, the results were excellent, recovery taking place rapidly in the ulcerative pyodermas. When, however, the ulceration was basically due to some other factor, such as stasis in ulcers of the legs or osteomyelitis under cutaneous ulcers, control of the secondary infection was all that was accomplished, as would be expected. In foul, infected ulcers of the legs progress was rapid up to a certain point, say for two or three weeks, until the infection was controlled. From this point on, penicillium gauze produced no spectacular healing of the cleaned-up ulcer. It was often advisable at this point to change to other methods of treatment, such as occlusion and support by an Unna zinc glycerogelatin type of dressing, or to control any varices by injection or ligation.

After we had used the penicillium gauze for about six months and had been convinced of its definite value, we sought a more stable, more potent form of penicillin extract. Since pure penicillin was not yet available to us, we began using a liquid culture medium containing penicillin. This liquid contained amounts of penicillin varying from 100 to 200 units of penicillin per cubic centimeter of liquid culture medium. It was prepared by one of us (C. E. C.) according to the following method:

Cultures of P. notatum (strain 1249b21, Northern Regional Research Laboratories) on a lactose corn steep liquor medium in Roux bottles were incubated at 24 C. until the penicillin titer reached a maximum value, generally in seven to nine days. The residual medium was filtered through paper, and approximately 5 cc. of ether was added per liter of medium to inhibit the growth of bacteria. In a number of instances a more concentrated and semipurified penicillin solution was prepared by amyl acetate and ether extractions at p_H 2.0 and extractions from the organic solvents by water adjusted to p_H 6.8 to 7.2 with dilute sodium bicarbonate solution.

The penicillin titer was determined by means of a modification of the cup plate method. Thirty cubic centimeters of agar inoculated with 0.1 cc. of a 1 to 10 dilution of a twenty-four hour broth culture of Staphylococcus aureus was poured into a Petri dish and allowed to harden. Holes 10 mm. in diameter were punched in the agar with a cork borer. Then 0.1 cc. samples of suitable dilutions of the penicillin-containing medium were placed in the cups, and the plates were incubated for twenty hours at 37 C. The diameters of the clear zones surrounding the cups were measured and the penicillin titer determined by comparison with results obtained in similar tests with dilutions of a penicillin solution of known strength furnished by courtesy of the Cutter Laboratories.

Six patients with classic impetigo contagiosa were treated with this solution of penicillin. All were cured in periods ranging from three to seven days. The method of treatment was to have the patient spray the solution onto the skin three times daily from a standard type of atomizer. This treatment was not only highly efficacious but was acceptable to the patient, obviating the objectionable staining of the skin by treatment with dye (gentian violet medicinal) and the greasiness of treatment with ointment.

We found that the crude penicillin solution worked extremely well as a damp dressing applied to infected surfaces of the skin. The secondary phase of infection of ulcers of the legs responded as well, if not better, than when penicillium gauze was used. Bockhart's impetigo (pyodermic ulcerations) healed rapidly and completely.

1. Robinson, G. H., and Wallace, J. E.: Inoculated Penicillin Dressing, Science **98**:329 (Oct. 8) 1943.

When purified penicillin became available to us, we began incorporating it in various ointment bases; these preparations were then tested for therapeutic activity and stability in vitro and afterward were used clinically.

It was found by one of us (C. E. C.) that when penicillin was incorporated in an oil in water emulsion base the bactericidal activity in vitro increased as the amount of water was increased. Thus an ointment consisting of 1 part of an aqueous solution of penicillin (50 units per cubic centimeter) in 9 parts of an oxycholesterol-petrolatum base [2] showed little or no penicillin activity, as determined by the cup plate method, against the test strain of S. aureus. An ointment consisting of 1 part of the penicillin solution, 4 parts of water and 5 parts of the oxycholesterol-petrolatum base produced a zone of inhibition equivalent to 2.5 to 3 units of penicillin per cubic centimeter as compared with 5 units per cubic centimeter of a 1 to 10 dilution of the original penicillin solution. Similar results were obtained when the ointment was placed directly on the agar. However, the cup plate method for testing the inhibitory action of an ointment is not as quantitative as could be desired. Tests carried out with a higher ratio of water to vehicle were not too reliable, since water was at times mechanically displaced from the base. Tests with higher concentrations of penicillin also indicated that activity of the ointment, as judged by the diffusion of penicillin from the ointment into agar, was greatly reduced as the water content of the ointment was decreased. These results suggest that as high a water content as is feasible should be employed in order to permit diffusion of penicillin from the ointment.

Another of us (V. P. S.) tested the bactericidal properties and stability of several preparations of penicillin ointment in vitro. Each preparation was made up to contain 500 units of sodium penicillin per gram.

Satisfactory ointments of penicillin have been prepared with a number of bases.[3] However, the labile character of penicillin brings up the question of stability and hence of the general practicability of this form of medication. We were therefore interested in any differences in the stability of penicillin when incorporated in various bases.

Three washable water-soluble bases and three oily bases were chosen for the study.[4] The water-soluble bases were adjusted to a p_H of approximately 6.25, and the penicillin was then dissolved in a small quantity of water and incorporated in the base. In the case of the oily bases, the penicillin was first triturated in a mortar, and then small amounts of the base were gradually incorporated until a homogeneous mixture was obtained. The penicillin content of the ointment was 500 units per gram. Each preparation was then divided into two portions, one portion being stored at room temperature (22 C.) and the other at refrigerator temperature (8 C.). Samples were withdrawn from each portion at weekly or biweekly intervals and tested for penicillin potency by the cylinder-plate method. Water-soluble bases were dissolved in a phosphate buffer solution and tested directly. Oily bases were dissolved in chloroform or carbon tetrachloride, and the penicillin was extracted by being shaken into the buffer and tested as before. Percentage recoveries were based on control assays of the original material at the time of preparation as 100 per cent.

Preparation notes on the individual bases are as follows:

Elkonite: A washable gel type base is prepared by incorporating 15 per cent elkonite in water.[5] This is a smooth, nongreasy base which does not stiffen on refrigeration.

Pectin: Washable gel type pastes of satisfactory consistency may be prepared from fruit pectin.[6] A pectin paste was prepared by incorporating 5 per cent pectin, 12 per cent glycerin and 0.1 per cent methyl parahydroxybenzoate in isotonic solution of three chlorides U. S. P.

Cetyl Alcohol, Sodium Lauryl Sulfate and Glycerin in Water: The use of a cream of penicillin has been reported by British workers.[7] Since the base (Lanette wax SX) used by them was not available, a substitute cream with similar physical properties was prepared of the following composition: cetyl alcohol 14.5 per cent, sodium lauryl sulfate 0.5 per cent, glycerin 5 per cent and water 80 per cent.

2. The preparation used was aquaphor, manufactured by the Duke Laboratories, Inc., Stamford, Conn.

3. Penicillin Ointments, Prescription Information Service, J. Am. Pharm. A. (Pract. Pharm. Ed.) **5**:213 (Aug.) 1944.

4. The penicillin used for studies in ointment stability was furnished by the Cutter Laboratories, of Berkeley, Calif., through a War Production Board allocation for chemical research.

5. Tainter, M. L.; Kulchar, G., and Stockton, A. B.: Elkonite, a Colloidal Clay, J. Am. Pharm. A. (Scient. Ed.) **29**:307 (July) 1940.

6. Maclay, W. D.; Shepherd, A. D., and Lotzkar, H.: Use of Pectin in Pharmaceutical Pastes and Ointments, J. Am. Pharm. A. (Scient. Ed.) **33**:113 (April) 1944.

7. Clark, A. M.; Gibson, T.; Colebrook, L., and Thomson, M. L.: Penicillin and Propamidine in Burns: Elimination of Hemolytic Streptococci and Staphylococci, Lancet **1**:605 (May 15) 1943.

Oxycholesterol-petrolatum: A base consisting of 6 per cent of a group of esters of cholesterol (chiefly oxycholesterol) in an aliphatic hydrocarbon (petrolatum) base was used.[2]

White ointment U. S. P.: Wool fat 5 per cent, white wax 5 per cent and white petrolatum 90 per cent.

Petrolatum: White petrolatum U. S. P.

Percentage Recovery of Penicillin from Various Ointments After Storage

Base	Temperature of Storage	Time of Storage, Weeks				
		1	2	4	6	8
Elkonite	8 C.	—	41%	10%	0	—
	22 C.	40%	25%	Trace	0	—
Pectin	8 C.	—	95%	80%	75%	70%
	22 C.	88%	67%	40%	Trace	0
Lanette-like preparation	8 C.	—	40%	Trace	0	—
	22 C.	25%	10%	0	0	—
Oxycholesterol-petrolatum	8 C.	—	90%	60%	45%	25%
	22 C.	80%	40%	15%	Trace	0
White ointment	8 C.	—	73%	55%	51%	48%
	22 C.	53%	42%	10%	Trace	0
Petrolatum	8 C.	—	82%	80%	54%	40%
	22 C.	66%	40%	40%	31%	17%

The percentages of recovery of penicillin after storage shows a relatively rapid decline in penicillin potency in all bases. The refrigerated ointments show a definitely slower rate of deterioration than those stored at room temperature. The ointments containing water in general show a more rapid rate of deterioration than the oily bases. Of the water-containing bases, pectin showed the best stability, while of the oily bases, petrolatum held up the best. Both the pectin and the petrolatum base preparations retained about 80 per cent of their potency after one month in the refrigerator and about 40 per cent of their potency after one month at room temperature.

In the small series of penicillin-containing ointments tested it seemed that the penicillin became more active, at least in vitro, as the water content of the ointment base increased. On the other hand, this very factor, addition of water, caused the ointments to become less stable. We are continuing this work with other ointment bases.

Following the aforementioned preliminary in vitro experiments with penicillin ointments one of us (H. J. T.) selected the following prescription for clinical trial.

Penicillin 15,000 units,[8]

Water,

Oxycholesterol-petrolatum,[2] each in sufficient quantity to make 30 Gm.

This ointment was chosen because of its physical characteristics and elegance of application to the skin. Although the ointment made up with a petrolatum base remained active longer in the in vitro experiments, it was felt that there was more likelihood of the penicillin of the oil in water emulsion base reaching the skin in therapeutic quantities. The pectin and elkonite bases were excellent preservative vehicles for penicillin, but it was felt that they would be more apt to cake and dry when used on moist, oozing areas of the inflamed skin.

Six patients with impetigo contagiosa were treated with this ointment, and all were cured within a week.

Five patients with secondarily infected eczema of various areas, such as the nipples, axillas, groin or face, showed a good response to the penicillin ointments up to the point where the secondary infection had entirely disappeared. The underlying eczema was more stubborn and had to be treated with roentgen rays and with other ointments.

Four patients with chronic retroauricular eczema were treated with penicillin ointment. This eczema was of the type regarded by some dermatologists as seborrheic and by others as pyodermic in origin. None of the patients was completely cured, but all were somewhat improved. Possibly the improvement was due to the control of the surface infection.

One example of an extensive, severe resistant dermatitis of the scalp responded spectacularly to the penicillin ointment. It was originally regarded as seborrheic dermatitis, secondarily infected. Orthodox treatment with ammoniated mercury, sulfur, chlorohydroxyquinoline and roentgen rays failed to produce improvement in a month. Then the penicillin ointment was ordered. Within three days the scalp was almost normal, and within a week it was completely well.

The mother of one child with retroauricular dermatitis stated that lesions had been constantly present since an occurrence of severe impetigo of the face and ears two years previously. Interestingly, the lesions entirely disappeared after two weeks' application of penicillin ointment.

Four patients with pustular folliculitis of the face or nape of the neck failed to respond satisfactorily to local applications of penicillin solution or ointment. We attributed this failure to inability of the penicillin to reach the infection deep in the hair follicle. In such cases injections of penicillin would seem more logical.

Penicillin ointments or solution were used in several miscellaneous dermatoses. Two infected burns of the fingers healed in four and thirteen days, respectively, under treatment with wet dressings of the crude penicillin solution. Two

8. The penicillin used in this ointment supplied to patients was obtained through regular channels after approval by local penicillin committees.

severe carbuncles healed without surgical intervention in ten days and twenty-one days, respectively, under treatment consisting of daily flushings of the multiple openings with crude penicillin solution. Such treatment seemed to be of great value in these two cases. One patient with fairly severe facial erysipelas recovered after five days of use of penicillin ointment.

COMMENT

Penicillin, whether used as penicillium gauze or as a solution of the crude penicillin or as purified penicillin in ointment bases, is a valuable therapeutic agent in the local treatment of the pyogenic infections of the skin. It is our preliminary impression that it works well only for superficial diseases solely or largely due to pyogenic infection. When the infection is deep in the skin (as in sycosis vulgaris or erysipelas), surface applications of penicillin are of questionable value.

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Clinical Notes

ACCIDENTAL DYEING OF HAIR BY FACE POWDER

ADOLPH ROSTENBERG JR., M.D., AND DAN DAHLE, PH.D., WASHINGTON, D. C.

A cursory search of the literature fails to reveal another case of accidental dyeing of hair by face powder. Because of the interest of the case and because of the possibility of other occurrences of such a reaction, we consider it worth reporting.

REPORT OF A CASE

A white woman whose hair originally was a dark brown but for the past twelve years had been turning gray noticed that in a few months she had acquired a red streak in the hair of the frontal area. When we saw her, she had a streak of hair which was coppery red, seemingly uniform in appearance and seemingly evenly colored down to the scalp. She denied having used any hair dye or rinse or having had anything applied to the scalp in the beauty parlor.

It was significant that for the past few months she had been working in a non-air-conditioned cafeteria where it was extremely hot. She perspired freely and was in the habit of running her hand over her face to wipe off the perspiration and continuing to move her hand backward over the front part of her scalp. She had noticed during this period an orange stain on a handkerchief and also on a hat band. Questions concerning her cosmetics revealed that she used only lipstick and face powder. She used a rachel shade of powder but had several brands. We took specimens of her hair from the normal portion of mixed dark brown and gray and from the colored streak for examination and asked her to send in samples of her face powder.

EXPERIMENTAL STUDIES

Microscopic examination of the colored hair showed that there was no pigment or other extraneous material sheathing the hair, and the colored hairs, in contrast to the brown ones, showed an absence of pigment granules but had a reddish stain in the cortex. The microscopic examination also revealed that the color in some hairs did not extend completely to the cut-off end of the hair.

We subsequently received two specimens of the face powder [1] from the patient. The two samples of powder were tested for "color bleeding," with the following results.

Results of Tests for Color Bleeding

Solution	Sample A	Sample B
1. Powder + water	No color	No color
2. Powder + dilute acetic acid, *p*H 6.5	Orange-red	No color
3. Powder + dilute ammonium hydroxide *p*H 7.2	Pink	No color
4. Powder + acetic acid + sodium chloride	Pink	No color
5. Powder + dilute solution of ammonium hydroxide + sodium chloride	Pink	No color
6. Powder + water + sodium chloride	No color	No color

Strands of the patient's hair were then immersed in solutions 4 and 5 for several hours. The hair that had been immersed in solution 4 was stained a color identical with that of the colored hair on her scalp. The hair that had been immersed in solution 5 showed practically no color. Gray hair taken from other persons was also immersed in solution 4 and dyed a shade not distinguishable from that of the colored hair of the patient.

We saw her about one month after her first visit, at which time the hair had grown considerably and it was obvious that the pigmented regions did not extend to the scalp.

Chemical and spectrophotometric examinations showed the color removed from the face powder by the slightly acid solution to be orange II (also known as D & C orange no. 4), Colour Index no. 151, which is chemically the monosodium salt of 1-parasulfobenzeneazo-2-naphthol. Since various lakes of orange II are used in coloring face powders, the cause of the reddish streak in the patient's hair is apparently due to the bleeding of such a lake into slightly acidic perspiration.

SUMMARY

A case was observed of a white woman who accidentally dyed her hair with a color which bled out of a lake in her face powder.

From the Food and Drug Administration, Federal Security Agency.

1. The patient was unable to name the brands, as the powders had been removed from their original containers.

EXAMINATION OF NAILS FOR FUNGI

STEPHAN EPSTEIN, M.D., MARSHFIELD, WIS.

The usual method of examining nails for fungi is a rather tedious and not too successful procedure. That applies to both microscopic and cultural examinations. It takes a long time for a hard piece of nail to dissolve sufficiently in the potassium hydroxide fluid. Furthermore, the part of the nail that is removed with the scissors may not be the best suited for the finding of fungi. It is also not particularly suitable for cultures, because it is usually heavily secondarily infected, especially with molds.

The use of an electric drill, such as has been recommended by Kile and Welsh [1] for the treatment of trichophytosis, is also helpful in establishing the diagnosis microscopically or by culture. The outer and superficial part of the nail is first drilled away. When the cleaner, somewhat brittle part of the nail is reached, the nail dust is collected on a slide or in a sterile Petri dish for culture. Material from different sites of the same nail or from different nails can be collected rapidly. The finely ground nail makes examination with potassium hydroxide even easier than that of ordinary scales. Still, the particles are large enough to allow the demonstration of mycelium. Culture can be performed easily with this material, and there will be less chance for secondary infection.

It seems probable that this little aid has been used by others; but as I did not find a reference to its use I thought that I should pass the hint on.

From the Marshfield Clinic.

1. Kile, R. L., and Welsh, A. L.: The Use of a Drill on Diseased Nails, Arch. Dermat. & Syph. **42**: 1123 (Dec.) 1940.

Abstracts from Current Literature

EDITED BY DR. HERBERT RATTNER

CANCER OF THE EYELID. LESTER HOLLANDER and FRANCIS J. KRUGH, Am. J. Ophth. **27**:244 (March) 1944.

In a group of 2,601 patients suffering from cancer of the skin in one form or another and treated at the Pittsburgh Skin and Cancer Foundation, 239 had cancer of the eyelid. The authors, however, report only on 125 of the 239 cases. They first discuss the anatomic and morphologic aspects of cancer of the eyelid and its differential diagnosis and classify it according to microscopic appearance in one of four groups: (1) the basal cell, or hair matrix, type; (2) the squamous cell, or epidermoid, type, (3) the mixed cell type, and (4) the melanoma type.

Of the 125 patients under discussion, 79 were men and 46 were women. Their ages ranged from 25 to 80 years.

It is the opinion of the authors that cancer of the eyelids should be excised whenever possible. In carrying out surgical repair the following considerations must be kept in mind: (1) that careful repair of the palpebral conjunctiva when it has been damaged is imperative; (2) that proper support of the eyelids depends on properly reconstructed tarsal plates; (3) that distortions of the margin of the eyelid which cause inversion of the cilia are to be avoided, and (4) that undue scarring is followed by retractions and formation of an ectropion, which also have to be avoided. Thirty-five of the 125 tumors were treated surgically, with 30 good and 5 bad results. Radio knife excision followed by repair with pedicle grafting was carried out in 12 instances, with 9 good and 3 bad results. In another group of cases, in which the growth occurred at the inner canthus and was firmly fixed to the fibrous structure of the surrounding area, electrodesiccation was used. This was done in 13 cases, with 7 good and 6 bad results.

There were a number of reasons which prompted the use of methods other than surgical. These included the following: 1. The cancer was considered inoperable on account of its extension and size. 2. The patient was considered a poor operative risk. 3. The patient refused operation. In these instances roentgen irradiation was used. An eye shield made of a soft lead alloy is used to protect the eyeball. It is sterilized by allowing it to remain in 70 per cent alcohol for ten minutes and then placing it in sterile water for five minutes to remove all traces of alcohol. Sterilized liquid petrolatum is then dropped on the concave surface to act as a lubricant. The energy was obtained from a Chaoul type of tube which has a focal roentgen ray skin distance of 3 to 5 cm., depending on the length of the applicator used. Daily treatments of 500 r each were given, and these varied from ten to twenty, depending on the severity of the reaction produced. If the contact Chaoul tube for irradiation is not available, low voltage roentgen rays may be used. Hollander and Krugh gave 350 r of low voltage radiation to carefully shielded areas in daily treatments, usually ten consecutive daily treatments being required.

Thirty-eight patients were treated with roentgen rays, 17 with the Chaoul contact modality. Good results were obtained in 12 and bad results in 5 cases. Twenty-one tumors were treated with the ordinary low voltage radiation, with 14 good and 7 bad results.

There were instances in which several methods of treatment—excision, electrodesiccation, roentgen rays and radium—had to be used. In all, 23 patients were so treated, with 17 good and 6 poor results.

OCULAR ROSACEA AND ARIBOFLAVINOSIS. WINIFRED M. FISH, Am. J. Ophth. **27**:354 (April) 1944.

Fish points out that the type of corneal vascularization found in ariboflavinosis is different from that found in ocular rosacea and that the latter disease is characterized by a seasonal incidence. Spring and early summer brought 42 cases under observation, midsummer only 1 and autumn 2. The specific type of corneal vascularization characteristic of ariboflavinosis is always bilateral; it invades the whole circumference of the cornea in both eyes; it is symmetric; it forms a more or less regular pattern of fine streamer-like superficial vessels. The picture in an early stage is entirely unlike that of ocular rosacea, with its irregular, localized infiltrates that progress across the cornea just ahead of a leash of vessels and separated from them by a clear space. In later stages of both diseases the deep vascularization may be the result of secondary sepsis.

The author concludes that biochemical research in the concentration of riboflavin in ocular tissue leads one to expect improvement in occular rosacea from vitamin B_2 therapy, but neither slit lamp examination nor therapeutic tests confirm the claim that this disease is due to a deficiency of riboflavin.

ERYTHEMA NODOSUM EPISCLERITIS. EUGENE W. ANTHONY and DON MARSHALL, Am. J. Ophth. **27**: 398 (May) 1944.

The authors report the case of a patient who had typical lesions of erythema on both legs with involvement of the external and internal bulbar conjunctiva of both eyes. The ocular lesions consisted of several small raised yellowish nodules surrounded by deep redness fading into a pink and finally surrounded by a slight bluish flush. The largest nodule measured about 1.5 mm. in diameter. The nodules were movable on the sclera.

CONGENITAL CATARACT AND OTHER ANOMALIES FOLLOWING GERMAN MEASLES IN THE MOTHER. ALGERNON B. REESE, Am. J. Ophth. **27**:483 (May) 1944.

All 3 of the author's patients had congenital cataracts and congenital cardiac lesions. All mothers contracted German measles within the first month of pregnancy. In the discussion the author asked a few pertinent questions, such as: Is the infection of the mother really German measles, and, if so, why have the congenital anomalies reported by him not been observed previously? Can any prophylactic measures be taken to prevent pregnant women from contracting German measles during the first three months of pregnancy, and should abortion be produced in a pregnant woman who contracts an exanthem in the first three months of pregnancy?

EARLY FILARIASIS IN AMERICAN SOLDIERS. WILLIAM B. WARTMAN and BOYD C. KING, Bull. U. S. Army M. Dept., May 1944, no. 76, p. 45.

The authors report their observations on 268 American soldiers with filariasis. These patients had lived an average of four months on certain islands of the Pacific, and, since most of them had never been in the tropics before, the lesions found were believed to represent the early manifestations of filariasis. The first symptoms were pain and swelling or redness of an arm (38 per cent), a leg (14 per cent) or the scrotal region (56 per cent). The syndromes observed fall into three categories: (1) lymphangitis of extremity or trunk; (2) acute inflammation of the scrotum or its contents, and (3) involvement of lymph nodes. The acute local symptoms were of short duration, usually less than ten days. A striking feature of the entire group of cases was the lack of severe constitutional symptoms.

Three methods to diagnose the disease were used: (1) finding adult or larval filariae in tissue; (2) finding microfilariae in the blood: (3) finding calcified worms by roentgen technic. An antigen prepared from Dirofilaria immitis was used for intradermal testing. The results of 90.8 per cent of the tests on 164 patients were positive.

The treatment used for this group of patients was mostly symptomatic, consisting of rest until the acute symptoms subsided. Sulfonamide compounds and mapharsen had no effect on the disease. The prophylactic treatment obviously is control of mosquitoes.

STRAKOSCH, Denver.

THE DERMATOLOGIC ASPECTS OF THE VESICANT WAR GASES. M. I. JEFF DAVIS, J. A. M. A. **126**:209 (Sept. 23) 1944.

Of the 27,111 patients in hospitals owing to use of poisonous mustard gas World War I, 30 per cent had involvement of the skin. Mustard gas acts on the respiratory system and eyes unless a person is masked; then its chief action is on the skin. There is no pain or irritation on immediate contact with the skin. There is a latent period between the time of exposure and the onset of signs and symptoms. This period varies from several hours to several days. Warm, moist areas of the body are the sites of predilection. The earliest change in the skin is an erythematous blush. Generalized brawny edema develops early. Within six to twelve hours, groups of multiple pinpoint vesicles appear. There is progressive involvement of the skin during the first six to eight days. Pain and discomfort likewise increase in intensity. Lesions uncomplicated by infection heal without scar formation. There is often a residual pigmentation after healing, which requires a number of weeks for resolution. On the average case a month's hospitalization is needed. Lewisite, one of the group of arsenical gases, is another type of vesicant agent which has been developed since the close of the last war. Liquid lewisite absorbed from the bare skin is capable of producing acute arsenical poisoning and death. From animal experiments it appears that 1 cc. of liquid lewisite absorbed from the skin would be fatal to man. Although lewisite vapor is less effective than that of mustard gas, liquid lewisite causes a more rapid, more severe and deeper burn than liquid mustard gas. In contrast to the absence of any symptoms on contact of mustard gas with the skin, lewisite (liquid) produces an almost immediate stinging and burning sensation.

The soldier is supplied with two types of prophylaxis against vesicant agents. These are ointments. They have to be applied rapidly after contamination. The prophylactic agent for lewisite has a specific action and is capable of reversing the lewisite reaction. The principle involved in this ointment and its formula are not divulged. It may prove of value in the treatment of severe arsenical dermatitides.

The treatment of vesicant burns differs but little from that usually employed for thermal burns. Ten day occlusive dressings have increased healing time over that of open dressings regardless of therapeutic agents applied.

IRRITATION PRODUCED BY THE PROCESSION CATERPILLAR (OCHROGASTER CONTRARIA). H. FLECKER and ANTHONY MCSWEENY, M. J. Australia **2**:137 (Aug. 5) 1944.

A series of stings by Ochrogaster contraria occurred in servicemen living under bivouac conditions on the fringe of an area of jungle. All patients exhibited an irritative dermatitis where the hairs of the caterpillar had come into contact with the skin. This took the form of an irregularly diffuse erythematous rash accompanied with intense itching and distributed mainly on the volar surfaces of the upper limbs, on the abdomen and on the chest. In well established cases a low grade urticarial eruption, which manifested itself as an erythema, was observed between lesions.

HENSCHEL, Denver.

ARTHUS TYPE OF SENSITIVITY TO LIVER EXTRACT. SAMUEL E. RYNES and LEANDRO M. TOCANTINS, J. Allergy **15**:173 (May) 1944.

In almost all reported cases of hypersensitivity to liver extract, sensitization phenomena included urticaria, asthma, severe gastrointestinal disturbances and collapse reactions of anaphylactic nature.

The authors report a case of severe local reaction of the Arthus type in a 40 year old woman. Reactions followed injections of a commercial liver extract (pork) on two occasions. An intradermal injection of 0.1 cc. of liver extract produced an intense edema followed by spontaneous rupture of the skin; the arm had to be carried in a sling for two weeks.

The ingestion of powdered stomach U.S.P. (ventriculin) and a preparation of iron and pork liver (lextron) caused nausea, vomiting and abdominal pain; a preparation of beef liver and iron (bepron) was tolerated. The patient was able to eat cooked calf, beef and lamb liver without trouble. The ingestion of pork liverwurst caused nausea, but goose liverwurst produced no ill effects.

Scratch and intradermal tests gave positive reactions to ten commercial liver extract preparations and to five whole liver extracts. Strongly positive reactions were also obtained to pork, beef and lamb muscle extracts. Passive transfer tests gave positive reactions to the commercial pork liver preparations and to all the whole liver and muscle extracts. Results of passive transfer tests to the commercial beef liver extracts were not consistently positive. No precipitins to the commercial or whole liver extracts were obtained by the ring test.

Hyposensitization with a commercial beef liver extract was successful after eight successive injections when a dose of 1 cc. (15 units) was reached.

CONTACT DERMATITIS FROM THE MANUFACTURE OF SYNTHETIC RESINS AND METHODS OF CONTROL. STEPHEN D. LOCKEY, J. Allergy **15**:188 (May) 1944.

In this excellent article, the author describes the composition and uses of the principal synthetic resins

which are manufactured in the United States. Over 2,600 objects used in this country are made of resins.

Phenol formaldehyde and urea formaldehyde resins account for many cases of contact dermatitis during their process of manufacture, which is described in detail. Preventive measures are pointed out.

A Consideration of Some Allergy Problems: 1. Allergic Dermatitis (Eczema). Robert A. Cooke, J. Allergy **15**:203 (May) 1944.

The author uses the terms "dermatitis" and "eczema" synonymously and interchangeably. He believes that "allergic dermatitis is the number one problem child of allergy." In his opinion, neurodermatitis of older children and adults is only chronic eczema, and he suggests that the terms "atopic dermatitis" and "neurodermatitis" should be eliminated from the nomenclature.

The method of contact with an offending agent is inconsequential; it may be from without or within. Patch tests and clinical tests by exposure to the suspected substances are the only methods available for etiologic diagnosis. Intradermal or scratch tests should not be employed as diagnostic procedures for eczema.

Since sensitization of the skin may be strictly localized, patch tests should be applied to sites of healed lesions.

Mendelsohn, New York.

Sweat as a Culture Medium for Fungi. T. Cornbleet and E. Meyer, New England J. Med. **230**:604, 1944.

The role of sweat as an antiseptic and as a cultural medium is reviewed. Several fungi were grown on sweat and on a medium made of sweat and agar. The result of this study cannot be put to practical use as yet.

Pigmentation of the Skin. H. Jeghers, New England J. Med. **231**:88, 122 and 181, 1944.

This is a valuable extensive review, containing a bibliography and a discussion with original observations on the following subjects: the normal color of the skin; the anatomic and optical modifiers of it; yellow pigmentations (carotenemia and carotenoderma, jaundice, pigmentation of myxedema and of uremia, dinitrophenol pigmentation and the staining due to substances of industrial origin); melanosis not associated with an increased number of melanoblasts (chloasma, vitamin A and C deficiencies, pellagra, sprue and other intestinal disorders, the anemias, the lymphomas, acanthosis nigricans, scleroderma, ingestion of arsenic, "vagabond's disease" ochronosis, Addison's disease, acromegaly, Cushing's syndrome, Simmond's disease, hyperthyroidism and pregnancy); metallic pigmentations (argyria, chrysiasis and bismuthia), and miscellaneous pigmentations (malaria and various medicinal agents).

Tularemia in New England: A Review of Eighteen Cases, with the Report of Two Additional Cases. F. D. Moore, C. S. Sawyer and S. G. Blount, New England J. Med. **231**:169, 1944.

In 9 cases of tularemia in New England the infection was due to handling of rabbits and in 5 it was traceable to tick bites. In 1 case of the disease due to an insect bite on the sternal region, the response to primary excision of the ulcer (for histologic study) was striking. The temperature became normal immediately; the palpable nodes disappeared in four days, and the patient was discharged from the hospital seven days later. If this result is corroborated by other observations, excision of the ulcers may constitute a useful way of shortening the period of disability from the disease.

Cutaneous Moniliasis. P. E. Bechet, New York State J. Med. **43**:2065, 1943.

The author discusses erosio interdigitalis, intertriginous moniliasis, generalized cutaneous moniliasis, perlèche, monilial onychia and paronychia and monilids. Therapeutic suggestions are given.

The Significance of Absent Pharyngeal and Corneal Reflexes in Cutaneous Diseases. T. N. Graham and G. M. Lewis, New York State J. Med. **44**:621, 1944.

Graham and Lewis studied the pharyngeal and corneal reflexes in 375 persons by striking the posterior wall of the pharynx with a tongue blade and by touching the cornea with a fine wisp of cotton. The authors are convinced that these reflexes are absent in many patients with dermatoses not of psychogenic origin and in many normal persons. Consequently their absence is of limited significance in establishing a diagnosis of psychotic dermatosis.

Crude Liver Extract as an Aid to Arseno- and Heavy-Metal Therapy. G. D. Astrachan, New York State J. Med. **44**:992, 1944.

Crude liver extract was used in 114 cases of intolerance to arsenicals or heavy metals. In a few cases pruritus and mild cutaneous manifestations were benefited. Improvement in gastrointestinal disturbances was observed in 60 per cent of the cases. Apparently the injection of liver extract causes a decrease of the icterus index, thus improving the impaired function of the liver.

The Cause of Psoriasis. A. E. Goldfarb, New York State J. Med. **44**:1111, 1944.

Five theories of causation of psoriasis (hereditary, neurogenic, parasitic, metabolic, diathetic) are discussed. Because of the relationship between mild injury and psoriasis and between mild injury to the skin and increases in capillary permeability, citrin, so-called vitamin P, having the effect of restoring pathologically increased capillary permeability was tried in treatment of 45 patients. The preparation used was citrin lemonade, made of lemon juice and ground lemon rinds. Of the 45 treated patients, 30 improved, 12 showed no change and 3 became worse.

Measures to Prevent and Control an Epidemic of Ringworm of the Scalp. G. M. Lewis, S. H. Silvers, A. C. Cipollaro, E. Muskatblit and H. H. Mitchell, New York State J. Med. **44**:1327, 1944.

The authors were appointed as a special committee to investigate and advise concerning the epidemic of ringworm of the scalp now prevalent in New York. The examination of school children under the Wood light is particularly useful. Tinea capitis should be made a reportable disease. A citywide case-finding survey of all school children should be made. A district diagnostic center should be set up when cases are found. Institutions should be periodically inspected. Barbers and the public should be instructed by pamphlets and radio. The best available treatment in the majority of cases is roentgen epilation under the direction and supervision of a dermatologist.

Ronchese, Providence, R. I.

ETIOLOGY OF POST-ARSPHENAMINE JAUNDICE. J. BEATTIE and J. MARSHALL, Brit. M. J. **1**:547 (April 22) 1944.

The three factors which have been suggested as being responsible, either singly or in combination, for postarsphenamine jaundice are syphilis, the arsenicals and an attack of nonsyphilitic catarrhal jaundice. There is no pathologic evidence to support Milians' view that delayed jaundice is due to syphilis of the liver. The organic arsenicals used in the treatment of syphilis are, however, hepatotoxins. There are indications that they are not solely responsible for postarsphenamine jaundice.

Both during the last war and the present war there has been a definite relationship between the increased incidence of jaundice in the general population and the increased number of cases of postarsphenamine jaundice. In 119 men with early syphilis in whom postarsphenamine jaundice developed and who had received all of their antisyphilitic treatment at one clinic, the time of onset of the jaundice ranged from the eleventh to the forty-fourth week after the first injection of the arsenical. In 76 per cent of the subjects it occurred during the twelfth to the seventeenth week, which suggests that the latent or incubation period averaged around fifteen weeks. The length of the incubation period and the possibility that an infective agent had been transmitted by inoculation suggested that postarsphenamine jaundice might be identical with the jaundice which occurs after the administration of products of human blood or of yellow fever vaccine containing human serum.

In 10 patients who were treated with new unused syringes for their own exclusive use, jaundice did not occur except in 1 man who was treated for two weeks in another clinic. This strongly suggests a blood transmission, inasmuch as the 10 were in intimate contact with men in whom postarsphenamine jaundice later developed.

Analysis of the cases indicates that infective jaundice has an incubation period of twenty-eight to thirty days and is transmitted by contact. It can exist in a form in which icterus never appears but which is apparently sufficient to confer immunity against reinfection.

An attack of late postarsphenamine jaundice presumably confers no immunity against infective jaundice. Evidence that an attack of infective jaundice confers no immunity against postarsphenamine jaundice is incomplete but suggestive.

RELATION OF DERMATOLOGY TO PSYCHIATRY. F. F. HELLIER, Brit. M. J. **1**:583 (April 29) 1944.

The importance of the personality factor in a variety of dermatoses is discussed from the standpoint of the dermatologist and psychiatrist.

Eczema, rosacea, alopecia areata, lichen planus, hyperhidrosis and warts are among the diseases which are profoundly influenced by emotions.

An auxiliary hospital has been set aside for men with chronic diseases of the skin who have failed to stand up to army life. The men have a set routine of work at least five hours a day, doing gardening, harvesting, domestic work and workshop jobs, which is designed to keep their minds occupied. In addition, the work is fairly strenuous and includes physical training which trains the men to be unafraid of the transition from the shielded atmosphere of the hospital to active duty.

The results so far are encouraging.

PREVENTION OF INDUSTRIAL DERMATITIS. N. HOWARD MUMMERY, Brit. M. J. **1**:660 (May 13) 1944.

In a British aircraft factory the incidence of oil acne and paraffin dermatitis which had given rise to a high incidence of disability was greatly reduced by use of a cleanser consisting of neutral sulfonated castor oil containing 2 per cent of a wetting agent as a substitute for ordinary soap.

Oil acne affecting the front of the thighs was prevented by waist-high metal guards on the cutting tools.

SHAW, Chattanooga, Tenn.

SOME IMPRESSIONS OF SLOW STARVATION IN CHINA. H. T. LAYCOCK, Brit. M. J. **1**:667 (May 13) 1944.

During a year spent in China, Laycock saw hundreds of starving persons and observed various manifestations appearing on the skin. The most conspicuous feature was the widespread edema which first appeared on the dorsal aspect of the feet, becoming progressively worse until the skin was tightly stretched and assumed a bluish transparency. Later the skin split under tension, leaving multiple draining fissures which were frequently infected and ulcerated. In many instances ulcers were produced by self medication.

The edema ascended up the entire leg to the groin and involves the genitalia. Sometimes the swelling extended over the trunk, arms and face and shifting of the edema fluid due to gravity produced bizarre changes in the appearance overnight. Under treatment the edema disappeared from above downward, and when it had gone the emaciation was often so extreme that whole groups of muscles seemed to have disappeared. The appearance was further altered by dark pigmentation not strictly limited, as in pellagra, to areas exposed to the sun.

The hair was dry, with a tendency to stand on end. The tongue was variable, often clean and moist, but in a minority of cases it was glazed and of a vermilion color. Scurvy was conspicuous by its absence.

SHAW, Chattanooga, Tenn.

WOODWORKER'S DERMATITIS IN EAST AFRICA. F. O. PIORKOWSKI, East African M. J. **21**:60 (Feb.) 1944.

Dermatitis is of frequent occurrence among workers who handle tropical woods. The author reports his observations on 5 Indians (Sikhs) who handled East African timbers. The patients were carpenters or cabinet makers. In 4 of them the picture was that of an acute dermatitis venenata involving the exposed parts of the face, neck, arms and hands. The patients were handling cedar, podo, mvule, camphor and Burma teak woods. The mvule wood produced dermatitis in 4 of the 5 patients. This wood is also known as Uganda teak, bush oak or roko, and comes from a tree belonging to the family Moraceae. The latter is related to the fig tree and the mulberry and grows over a large belt of tropical Africa. All eruptions improved under mild antiphlogistic applications.

LAYMON, Minneapolis.

Society Transactions

METROPOLITAN DERMATOLOGICAL SOCIETY

L. Van Dyck, M.D., *President*

R. Montgomery, M.D., *Secretary*

Jan. 17, 1944

A Case for Diagnosis (Granuloma Annulare or Tuberculid?). Presented by Dr. Leslie P. Barker.

S. S., a housewife aged 53, presents an eruption that began five months ago on the face and within a month spread to the arms. The lesions first appeared as itching, red macules that developed into round thickened papules.

The patient had an operation for what was apparently an abscess of the appendix about eleven years ago, and a second operation was performed to relieve the adhesions and also to relieve a persistent draining sinus that had remained after the first operation. Since the second operation, the patient has had frequent recurring attacks of diarrhea. Two years ago arthritis developed in the fingers. She was relieved somewhat by vaccines prepared from the stool, although the arthritis persisted to a mild degree. At the present time she is under treatment for colitis.

There are numerous, discoid dime-sized lesions on the face and arms. They are bright red papules; the center is less elevated than the border, which is firmer. Some of the lesions have a nodular border. They show no tendency to coalesce. General physical examination reveals nothing abnormal except obesity. The patient complains of slight itching.

A roentgenogram of the chest was normal. The Wassermann reaction of the blood was negative. The blood count, basal metabolic rate and urinalysis gave normal results. Histologic examination of a cutaneous lesion disclosed no striking changes of the epidermis. There was an infiltration of the corium by numerous epithelioid cells, which formed tiny tubercle-like nodules. These were particularly pronounced around areas of necrobiosis, where a scattering of giant cells was present. Many lymphocytes were seen infiltrating the perivascular areas. The granuloma was definitely one of a tuberculoid type but somewhat difficult to interpret, as there were changes suggesting granuloma annulare as well as necrobiosis.

The patient received six weekly roentgen ray treatments (100 r) each to all affected areas. About half of the lesions have disappeared.

DISCUSSION

Dr. J. Lowry Miller: I think that the correct diagnosis is granuloma annulare, although the distribution is somewhat unusual for this disease.

Dr. Maurice J. Costello: I believe that this patient has granuloma annulare of extensive distribution.

Dr. Royal M. Montgomery: I agree with the diagnosis of granuloma annulare.

Dermatitis Venenata of the Face (Probably Self-Induced) and Allergic Dermatitis of the Arms. Presented by Dr. Leslie P. Barker.

P. V., a housewife aged 26, presents a lesion that began as a small papule the day after she had received a blood transfusion for anemia. She picked the lesion, and it began to spread until it reached the present size. There have been periods of oozing, redness and crusting, and at times the lesion clears up, only to recur. The patient admitted picking her face a good deal, but she has applied only ointments prescribed by physicians. She has used nail polish. She also has had nephritis for several years with recurring anemia.

Examination of the left cheek just beneath the lower eyelid shows a red, oozing and yellowish crusted lesion, roughly square and about 1½ inches (4 cm.) across. The border is not vesicular. There is also a scattered, patchy eczematous eruption of both forearms which has been present since the lesion on the face.

The complete blood count showed 3,800,000 erythrocytes and a hemoglobin content of 75 per cent, 6,800 leukocytes, 68 per cent polymorphonuclear leukocytes, 2 per cent large monocytes and 30 per cent small lymphocytes.

DISCUSSION

Dr. Royal M. Montgomery: I believe this to be a contact dermatitis. The lesion near the eye has been irritated by picking.

Dr. J. Lowry Miller: I think this case is one of contact dermatitis on the arms and face.

Dr. Maurice J. Costello: I agree with Dr. Miller. I think this patient has a contact dermatitis.

Xanthoma Tuberosum Multiplex. Presented by Dr. Royal M. Montgomery.

C. L., a white woman aged 67, was first seen on Aug. 11, 1943, complaining of an eruption of three years' duration. It involved the arms, hands, legs, feet and buttocks. She was previously presented before the New York Dermatological Society, on Jan. 26, 1943 (Arch. Dermat. & Syph. **48**:553 [Nov.] 1943) by Dr. Eugene Traub.

She is presented now to show the results of therapy. On August 11, 1943 the patient presented the same clinical appearance as she did on the previous presentation. At present all the affected areas are flatter, paler and not so indurated. The nodules on the fingers and hands are definitely less prominent. All lesions show decided retrogression.

Physical examination in January 1944 revealed the following facts: The peripheral arteries were slightly thickened. The oscillometric readings in the feet and at the ankles were normal.

On examination of the heart the point of maximum impulse was not felt, the rhythm was regular, murmurs were not heard and the sounds were forceful. The systolic blood pressure was 146 mm. of mercury and the diastolic 78 mm. The lungs were clear and resonant. The retinal vessels were normal. The tendons were normal. The scalp was clear. The mucous membranes were clear. The liver and the spleen were not palpable.

On fluoroscopic examination there was a slight enlargement of the left ventricle. The ascending aorta was dilated and denser than normal.

The basal metabolic rate was normal.

The electrocardiogram showed left axis deviation with a deep S wave in leads II and III (a precursor of coronary occlusion). There was evidence of myocardial damage.

The urinalysis was normal.

The blood contained 375 mg. of cholesterol and 890 mg. of fatty acids per hundred cubic centimeters. The total lipids were 1,265 mg. (There were no determinations of blood lipids previous to the start of vitamin A therapy.)

Treatment consisted of 200,000 units of vitamin A and 7½ grains (0.49 Gm.) of dehydrocholic acid daily. This has continued over a period of five months.

DISCUSSION

DR. J. LOWRY MILLER: Any treatment that shows such a result on this disease is remarkable. Dr. Montgomery should be congratulated.

DR. MAURICE J. COSTELLO: If a low fat diet had been added to the treatment greater improvement might have resulted. I saw 1 patient who improved remarkably when he used a low fat diet. The impression that low fat diets are of little value in management of this chronic dermatosis is probably based on the fact that they are not prepared and followed to the letter as suggested by a capable dietitian.

Plantar Radiodermatitis. Presented by DR. ROYAL M. MONTGOMERY.

V. O., a woman aged 22, was first seen by me on Oct. 25, 1943, with a painful ulcer on the left foot. There was a small painful sluggish ulcer about 3/16 inch (0.5 cm.) in diameter in the location of a previous wart.

She gave a history of having had a plantar wart under the head of the second metatarsal bone of the left foot, which was excised by a physician three and one-half years ago (summer of 1940). About two years ago (fall of 1941 and spring of 1942) seven doses of roentgen rays were given to this area by a dermatologist. This was followed by acid therapy and later by desiccation.

Examination shows a small triangular keratotic mass about 1/8 inch (0.3 cm.) on the side in the site of the previous ulcer under the second metatarsal head of the left foot. Surrounding this there are several capillary tips varying in size. The papillary lines deviate toward the center of this area and are interrupted by scar tissue. The entire lesion is not freely movable on the underlying structures. The plantar fat pad under the affected area is thinned. There is no evidence of warty tissue.

A stimulating ointment was applied to the ulcer. This contained urea, tannic acid and cod liver oil. Foam rubber shields were applied to protect the area from trauma. The ulcer healed in two months, and the pain greatly decreased.

DISCUSSION

DR. MAURICE J. COSTELLO: It is important to know the total dose and type of the roentgen rays, the intervals between treatments and the period of time over which they were administered.

DR. J. LOWRY MILLER: With filtration and close screening, I have seen a large number of roentgen units given without bad results. Conservative treatment would be well warranted in this case, with resort to plastic surgery only in case of failure. Protective dressing is important here. The time of onset of ulceration due to excessive dosage of roentgen rays is usually a year.

DR. ROYAL M. MONTGOMERY: At present I believe that no wart remains in the lesion. In using roentgen rays in the treatment of plantar warts, the warts should be shaved down and shielded closely as we have suggested (Montgomery, A. H., and Montgomery, R. M.: Roentgen-Ray Therapy of Plantar Warts, *N. Y. State J. Med.* **41**:371 [Feb. 15] 1941). I believe that shielding ¼ inch (0.6 cm.) outside the margin, as some dermatologists do, is too wide and is the cause of radiodermatitis. In giving radiation to the wart only, there is no chance of having a radiodermatitis. I do not think that plastic repair on the plantar surface has been satisfactory. Conservative treatment is best for such lesions for six to twelve months, and then plastic surgery is indicated if there has been no improvement. This patient received 12 skin units of unfiltered roentgen rays and 3 skin units filtered through 3 mm. of aluminum.

Mercury Vapor Gingivitis in a Glass Blower Working with Neon Lights (Wood Filter as an Aid in Diagnosis). Presented by DR. MAURICE J. COSTELLO.

M. E., a man aged 54, has been a glass blower for fifteen years. He is a member of a family of glass blowers, several of whom, according to the patient, have been disabled or have died of mercurial poisoning resulting from their occupation. The patient was seen by me for the first time on Dec. 11, 1943, at which time he suffered from an occupational dermatitis involving the face, ears, back of the neck and upper extremities. He also had painful swollen gums with recession of the margins of the gingivae and loosening of the lower teeth.

Examination with the Wood light revealed a cinnabar red color of the gums and areas of the lower front teeth exposed by the recession of the gingival tissue.

DISCUSSION

DR. J. LOWRY MILLER: I agree with the diagnosis in the sense that it indicates the local reaction to deposited mercury but not general poisoning by mercury. Mercury forms an amalgam with other metals. I suggest that some kind of suitable metal protection be made for the teeth which might condense the mercury vapors in the mouth, rendering them harmless.

DR. ROYAL M. MONTGOMERY: This case is of interest because it brings out the use of filtered ultraviolet rays in diagnosis. Mercury apparently has a definite color under filtered ultraviolet rays.

DR. MAURICE J. COSTELLO: I am only assuming that the red color at the gingival margins examined under the Wood light is caused by a deposition of mercury. The patient has other symptoms too, dizziness and pains in the muscles and joints.

Parapsoriasis. Presented by DR. J. LOWRY MILLER.

J. F., aged 68, born in Scotland, twenty years ago noticed redness of the skin of the arms, which he thought to be due to sunburn. Ten years later similar lesions appeared on the trunk and legs. No itching or other subjective symptoms have ever been present at any time. A variety of treatments have been tried, without any beneficial effect.

Examination shows numerous patches of varying size and irregular shape scattered over the trunk, arms and legs. The patches are well defined and present varying shades of red to reddish brown. Slight scaling is present, but in no place is there any infiltration of the skin. General physical examination of the patient reveals nothing unusual.

Histologic examination of skin from the arm revealed: The epidermis was thinned but showed some parakeratosis. There was widening of the papillae, with decided hydropic degeneration. Extensive round cell infiltration and collagenous degeneration were present just beneath the epidermis. These histologic changes are consistent

with a diagnosis of parapsoriasis, but because of the pleomorphic character of the infiltrate the possibility of mycosis fungoides should be considered.

Blood counts, blood chemistry and urinalysis were all normal.

DISCUSSION

DR. MAURICE J. COSTELLO: The patient has atrophy as well as wrinkling. If the disease is acrodermatitis chronica atrophicans it would be remarkable for it to be so extensive. However, the appearance of the eruption and the atrophy make me think of this disease.

DR. J. LOWRY MILLER: The patient has had this disease for twenty years. Would future biopsies help?

Tuberculosis Verrucosa Cutis. Presented by DR. J. LOWRY MILLER.

J. R., a married man aged 41, born in Mexico, presents a lesion on the left side of the neck. Four years ago this lesion started as a small pustule, which has spread to the present size. The initial lesion was purulent. The patient was treated with ultraviolet irradiation twice a week for six months, with gradual healing in the centers of the lesions. He was in the Army for seven months and discharged as overage. Local applications of ointment have been the only treatment.

In childhood he had an operation on the right side of the neck for a chronic lesion of the skin. He also had a "boil" opened on the right side of the neck one month before the onset of the present lesions.

Examination shows on the left side of the neck two irregularly annular lesions, joined on one side, each being about 1½ inches (3.8 cm.) in diameter. The borders of the lesions are ⅛ to ½ inch (0.3 to 1.3 cm.) wide, elevated and warty. They are covered with a dry crust. The margins are sharp and elevated, and no definite pustules can be distinguished. The centers of the annular lesions show a skin-colored noncontractile fine scarring.

On the right side of the neck there is a linear scar 3 inches (7.5 cm.) long and above this a contracted scar ½ inch in diameter.

DISCUSSION

DR. MAURICE J. COSTELLO: I agree with the diagnosis of tuberculosis verrucosa cutis as the man has had tuberculosis for several years, having been operated on in this location for tuberculous lymphadenitis.

DR. ROYAL M. MONTGOMERY: I agree with the diagnosis, but I suggest a biopsy to rule out blastomycosis.

DR. J. LOWRY MILLER: I will consider tuberculosis as a working diagnosis but will still keep blastomycosis in mind.

NOTE. — Histopathologic examination confirmed the clinical diagnosis.

Leprosy. Presented by DR. THOMAS N. GRAHAM.

This case was previously presented at the New York Academy of Medicine, Nov. 3, 1943 under the title, "A Case for Diagnosis (Tuberculid? Leprosy?)." (ARCH. DERMAT. & SYPH. **50**:224 [Sept.] 1944).

Since the previous presentation of this case, a lepromine test has been performed, which elicited a strongly positive reaction. The large patch surrounding the left eye has shown anesthesia to pinprick and to heat and cold.

DISCUSSION

DR. ROYAL M. MONTGOMERY: I agree with the diagnosis. The atrophy of the interosseus muscles of the hand, the enlargement of the nerves, the report of the biopsy specimen and the result of the test all point to the diagnosis of leprosy.

DR. MAURICE J. COSTELLO: I agree with the diagnosis.

DR. J. LOWRY MILLER: It is interesting to see this case because it becomes more typical each time it is observed.

CLEVELAND DERMATOLOGICAL SOCIETY

JAMES R. DRIVER, M.D., *President*

GEORGE W. BINKLEY, M.D., *Secretary and Reporter*

Feb. 3, 1944

These cases were from the Cleveland Clinic, Department of Dermatology, presented by DRS. E. W. NETHERTON and W. R. HUBLER.

Monilial Infection of the Tongue.

G. W., a white woman aged 46, was seen in 1941, complaining of a small tender red area on the center of the tongue of one year's duration. Six months previously, the area had become covered with a white membrane, which has persisted. The area had enlarged slowly. A diagnosis of glossitis, causation undetermined, was made at that time. The lesion did not respond to vitamin therapy. The patient was not seen again until October 1943, when she complained of a burning sensation in the lesion. The plaques had remained virtually unchanged.

A dull red infiltrated plaque is present in the midportion of the dorsum of the tongue. There is a gray pseudomembrane covering the central portion of the lesion. The lesion measures 2 cm. by 7 cm. and the long axis is longitudinal. The cervical lymph nodes are enlarged moderately. The remainder of the physical examination reveals essentially normal conditions.

The hemogram was normal in 1941 except for a leukocyte count of 10,600. Results of urinalyses were negative, and the blood sugar level was normal. The Wassermann reaction of the blood has been repeatedly negative since 1941. The Kahn reaction of the blood, however, was 1 plus on two occasions and negative on a third, in 1941. A roentgenogram of the chest was normal. Smears from the lesion on the tongue showed many small hyphae with attached spores alongside. Cultures revealed growth of Monilia albicans.

DISCUSSION

DR. E. J. ARDAY: I should like to suggest that this patient has glossitis rhombica mediana, a chronic disease of unknown cause. Its localization is exactly the same as that of the lesion in this patient. The fact that Monilia was found in smears and on culture does not prove the diagnosis as presented, because the mouth usually contains some monilia organisms. An already inflamed tongue could possibly grow more organisms at that point. I think that if this were a moniliasis of the mouth, the mouth would be very much more inflamed and the patient would really have a stomatitis.

DR. HAROLD N. COLE: The lesion does not have much induration. The lesions of glossitis rhombica mediana I have seen usually are indurated, standing right out. I wonder whether this could be just leukoplakia. The patient is a heavy smoker.

DR. CLYDE L. CUMMER: I do not see how one could sustain a diagnosis of glossitis rhombica mediana. There is no induration; there is rather a depression below the level of the mucous membrane.

DR. JAMES R. DRIVER: I thought that when one wiped the lesion off, the base looked suggestive of leukoplakia. It would be interesting to have the patient stop smoking for a month, to see what would happen.

DR. HAROLD N. COLE: With regard to glossitis rhombica mediana, I have seen 4 or 5 patients with the disease. They have practically always all been heavy smokers, and it seems that if one can get them to stop tobacco, the process goes away.

DR. E. W. NETHERTON: When I first saw this patient, she had a small superficial ulcer on the midportion of the tongue. At times the ulcer had been covered with a yellowish pseudomembrane. She may have an atypical leukoplakia, and I feel that this must be considered in differential diagnosis. The smears which were taken when she was first seen showed numerous thin hyphae, with side budding. The smear taken today was made just before the meeting and was not as satisfactory as those obtained when she first came under observation.

Angioma Serpiginosum.

Parapsoriasis en Plaques.

J. K., a man aged 47, has been employed as a street railway conductor for seventeen years. His health has always been good, and he says that he has not taken cathartics or other drugs.

Seven years ago, an eruption began to develop on the arms and legs. New lesions have developed slowly on the extremities and trunk. The lesions become less noticeable during the summer but do not change in size or shape. There is slight pruritus.

The eruption consists of coin-sized, rounded and oval, superficial, yellowish pink, scaly, fairly well demarcated plaques disseminated over the trunk and extremities. The scales are small, gray and adherent. Lesions are most numerous on the arms and sides of the trunk.

The hemogram was normal, and the Wassermann and Kahn reactions of the blood were negative. Skin was removed from a plaque on the right arm for microscopic study. There was a thin layer of hyperkeratosis on the surface of the epidermis. There was no parakeratosis. The granular layer was present but thin. There was a moderate degree of acanthosis, and there was some intercellular and intracellular edema in the rete mucosa. Microabscess formation was not observed. The basal cell layer was intact. The vessels of the papillary and subpapillary layers of the corium were dilated and surrounded by cellular infiltration. The infiltration consisted chiefly of lymphocytes. There were a few large mononuclear cells and an occasional plasma cell. There were no eosinophils or leukocytes. These findings were considered to be compatible with the histologic changes in parapsoriasis en plaques.

Treatment with ultraviolet irradiation twice a week for five weeks produced no change in the cutaneous lesions.

DISCUSSION

DR. H. G. MISKJIAN: There is one point to which I should like to call attention. This patient complains of pruritus. According to Brocq's original definition, parapsoriasis, among other features, is characterized by the absence of pruritus. Consequently, any erythematosquamous eruption that is pruritic should not be called parapsoriasis. Every now and then one comes across the statement that in certain cases parapsoriasis changes years later into mycosis fungoides, particularly when the lesions are pruritic. I have often wondered whether what is diagnosed as "parapsoriasis with pruritus" is not mycosis fungoides from the beginning. According to this view, the premycotic stage of mycosis fungoides would exceptionally simulate parapsoriasis to the point of being indistinguishable from it. The patient we have seen today may well be an example of this.

DR. HOWARD J. PARKHURST: I thought the history was that the eruption subsided considerably in the summer; that fits in with my experience in 1 or 2 cases in which the eruption seemed to clear temporarily under ultraviolet irradiation.

DR. HAROLD N. COLE: I thought that this was a characteristic case of one of the resistant scaly erythrodermas, a good example of one of these rare dermatoses.

DR. E. W. NETHERTON: I have nothing more to add except that arguments have been raised elsewhere regarding the frequency with which parapsoriasis terminates in mycosis fungoides. There is no evidence of mycosis at the present time. I think that this point is being overstressed.

Subacute Disseminated Lupus Erythematosus; Rheumatoid Arthritis.

L. S., white, a crane operator, aged 36, states that his present illness began five years ago, with pain in the feet and ankle joints. Two years ago, the joints of the hands became painful and swollen. He has taken large doses of irradiated ergosterol for the past two years. Three weeks after this medication was started, red pruritic plaques appeared on the scalp, face, neck and arms.

The eruption consists of large and small rounded and serpiginous, well demarcated, erythematous, scaly plaques on the face, neck, scalp and arms. The central portions of the larger lesions consist of smooth scar tissue. The lesions on the scalp have produced a total and permanent alopecia. There are small, gray, dry, adherent scales at the periphery of some of these plaques. No dilated follicles or follicular plugs are seen. There is deformity of the hands, secondary to the rheumatoid arthritis. The mouth and nasopharynx are normal.

The hemogram showed a mild hypochromic anemia. The Wassermann and Kahn reactions were negative. The basal metabolic rate was plus 19 per cent. The gastric analysis was normal.

A roentgenogram of the right hand showed extensive atrophic arthritis with some narrowing of the joints, but there was no destruction of the joint cartilages.

Histologic examination of a small plaque on the forearm showed slight hyperkeratosis and moderate keratotic plugging of the orifices of the hair follicles. The interpapillary pegs were obliterated, and the prickle cell layer showed some intercellular edema. Spotty liquefaction degeneration was present in the basal cell layer. The capillaries in the upper portion of the corium were dilated and surrounded by a mantle of lymphocytes. A dense lymphocytic infiltrate was present about the pilosebaceous follicles and some of the sweat glands.

DISCUSSION

DR. ROBERT E. BARNEY: I should like to suggest the diagnosis of disseminated discoid lupus erythematosus, for subacute lupus erythematosus carries with it a more serious prognosis. Besides, the lesions on the extremities are of the discoid type.

DR. HAROLD N. COLE: I agree with Dr. Barney. I think that it is disseminated discoid lupus erythematosus.

DR. E. W. NETHERTON: My reason for believing that this should be classified as a disseminated subacute lupus erythematosus is based mainly on the constitutional phases of this man's illness. He has a low grade fever, is weak, is certainly ill and has severe rheumatoid

arthritis. The lesions have spread rapidly and are acute, more so than usually seen in chronic discoid lupus erythematosus. I think one question is whether or not the arthritic changes and the cutaneous lesions are manifestations of the same disease. In all probability this is the case. I believe that both are manifestations of a serious systemic disease and that the prognosis should be considered unfavorable.

DR. JAMES R. DRIVER: No evidence of focal infection was found.

DR. ROBERT E. BARNEY: This patient has two separate clinical manifestations of unknown causation: lupus erythematosus and rheumatoid arthritis. It is altogether possible that the same unknown toxic agent is producing both diseases. However, the constitutional symptoms may be associated with the rheumatoid arthritis. From the clinical standpoint the lesions look like discoid lupus erythematosus. In subacute disseminated lupus erythematosus, the lesions resemble those seen in erythema multiforme.

A Case for Diagnosis (Lupus Erythematosus Profundus? Chronic Edema of Forehead?).

B. J., a welder aged 36, came to the Cleveland Clinic on May 12, 1943. His chief complaint was a persistent, symptomless, poorly circumscribed swelling on the lower central portion of the forehead, of five years' duration. For three years the swelling developed slowly, but for the past two years the change in contour of the forehead has become more apparent. The lesion was not preceded by trauma, and he has never had a cellulitis, recurring erysipelas of the forehead or chronic sinusitis.

There is a poorly circumscribed, slightly pink, edematous area involving the forehead. The edema extends from the base of the nose laterally to the center of each eyebrow and upward, to fade imperceptibly at about the midportion of the forehead. Firm pressure produces pitting, which becomes obliterated in a few moments.

The hemogram was normal. The Wassermann and Kahn reactions of the blood were negative. A roentgenogram of the skull showed that the frontal sinus was deep and bulged anteriorly. The soft tissues over the bulge were thickened. There was no erosion of the bone. The cortex of the bone immediately beneath the bulge was slightly thickened. Dr. Templeton, of the department of radiology, interpreted the roentgenogram. He stated that the thickened soft tissues overlying a prominent frontal sinus was not a lipoma. On May 13, 1943, the basal metabolic rate was plus 4 per cent.

Microscopic study revealed a thin layer of hyperkeratosis. The granular layer was normal. The rete mucosa was of about normal thickness, but the interpapillary pegs had been obliterated by changes in the upper portion of the corium. There was slight intracellular edema of the rete cells. The basal layer was intact. The orifices of the pilosebaceous follicles were dilated and contained hyperkeratotic plugs.

There was considerable edema in the papillary and subpapillary layer of the corium. There was a well circumscribed lymphocytic infiltration about each pilosebaceous follicle. There was some edema in the corium and slight perivascular infiltration below the level of the hair follicles. Sebaceous glands were numerous and hypertrophied.

DISCUSSION

DR. HAROLD N. COLE: I should like to ask whether this man has been examined for possible thyroid disturbance.

DR. E. W. NETHERTON: I believe not.

DR. HUGO HECHT: I think it is a chronic edema following repeated erysipelas. I asked the patient about his condition years ago, before the swelling started. He said that he had had three small painful suppurating pimples on the right auricle and that the swelling of his forehead started afterward. The restoration to normal size was and still is hindered by the narrow bridge of his spectacles. The deep impression is clearly visible. Essentially lupus erythematosus is characterized by hyperkeratosis, dilatation of the vessels and lymphocytic infiltration. The biopsy in his case shows noninflammatory edema and hypertrophic sebaceous glands. There is not enough infiltration to suggest a diagnosis of lupus erythematosus.

DR. ROY L. KILE (by invitation): I am not exactly sure as to the exact classification of this interesting case. While I was in private practice in Cincinnati, I saw an identical case. It is interesting that both this patient and Dr. Netherton's wore a welder's helmet. Some pressure on the forehead may have contributed to the edema. It does not impress me as erysipelas. There is little or no inflammation of the skin.

DR. E. W. NETHERTON: From the clinical appearance alone, I agree that lupus erythematosus profundus would not be considered the diagnosis in this case, but it is suggested because of the histologic changes which were found on biopsy, there being an intense lymphocytic infiltration around the pilosebaceous follicles. The infiltration far exceeded what one would expect from the clinical appearance of the lesion. The plugging of the follicles was far out of proportion to what one sees clinically.

Hypertrophic Lichen Planus.

Mrs. V. G., aged 56, came to the Clinic on Sept. 20, 1943. She states that for twenty years she has had a generalized pruritic eruption. The eruption and pruritus have always been less during the summer season. During the past three years, the pruritus has become more intense and there have been no periodic improvements in the eruption.

For months, she has slept poorly, felt drowsy, tired easily and been troubled with constipation. She has taken cathartics containing phenolphthalein. Her son and husband are chronic alcoholics and have made her home life very unhappy.

Since this patient was seen in September 1943, there has been some improvement, but the essential features of the eruption are still present. There is a polymorphous eruption involving most of the cutaneous surface. The scalp is covered with a dry, gray, adherent scale. The skin of the face and neck is erythematous to violaceous in color.

The trunk, particularly the abdomen and breasts, and to a lesser degree the back, are involved by large, reticulated, hyperpigmented areas which show atrophy of the skin. There are also telangiectasias throughout these areas. There is a striking resemblance to chronic radiation dermatitis. There are a few flat, smooth papules on the trunk. There is a diffuse, dark red to violaceous lichenification of the forearms, buttocks and thighs. There are also smooth, shiny, angular violaceous papules on the thighs and buttocks. Wickham's striae are not present. There are rounded and irregular, violaceous to almost purple, thickened, slightly verrucous plaques on the legs and thighs.

The hemogram showed a mild secondary anemia. The Wassermann and Kahn reactions of the blood were negative. The basal metabolic rate was plus 11 per cent. Ingestion of phenolphthalein did not influence the eruption.

Specimens of skin were removed from a thickened violaceous plaque, the papular and lichenified eruption on the thigh and an atrophic lesion on the back. The changes observed in the sections from the plaque and from the thigh were essentially the same, varying only in degree. These consisted of hyperkeratosis and, in places, a slight hypertrophy of the granular layer, decided acanthosis and spotty liquefaction degeneration of the basal cell layer. In places the prickle cell layer was invaded by lymphocytes.

There was a fairly dense cellular infiltrate, limited to the papillary and subpapillary layers of the corium. The infiltrate consisted of lymphocytes, large mononuclear cells and a few fibroblasts and numerous chromatophores.

The section from the back showed appreciable atrophy of the epidermis, obliteration of the interpapillary pegs, hyperkeratosis and a thin granular layer. There was a fairly dense cellular infiltrate, sharply limited to the papillary and subpapillary layers of the corium. The infiltrate consisted chiefly of lymphocytes. There were numerous chromatophores and a few large mononuclear cells and fibroblasts. A histopathologic diagnosis of lichen planus was made.

After twelve intramuscular injections of bismuth subsalicylate the eruption has shown considerable improvement and pruritus has almost disappeared.

DISCUSSION

DR. E. J. ARDAY: This patient has had erythematous eczematoid lesions on the legs some seven or eight years ago. She first noticed them when she was taking a hot bath. Later these lesions became red enough to be evident even at room temperatures. The eruption spread to the rest of the body, and three years ago hypertrophic lichenified lesions appeared on the arms and legs. The itching has always been severe. The microscopic picture is also not that of lichen planus. Slides taken from the lesions of the legs are similar to the slides seen in another case with a diagnosis of mycosis fungoides. There is a uniform infiltration of lymphocytes in the corium which does not quite reach the basement membrane; neither are there any lymphocytes formed in the lower portions of the epidermis, and the basement membrane is not disturbed as it would be in lichen planus. Occasional eosinophils are present in the infiltrated area. I suggest the diagnosis of mycosis fungoides.

DR. HUGO HECHT: I agree. The picture is similar to the other presented as mycosis fungoides; hence I think that this is mycosis fungoides.

DR. HOWARD J. PARKHURST: I felt that from a clinical standpoint the disease is lymphoblastoma. There is a certain amount of infiltration. The histologic picture bears that out.

DR. HAROLD N. COLE: I thought that the histologic picture shows a rather uniform type of cell and I lean more to the diagnosis of a lymphoblastoma, possibly leukemia cutis. I do not know whether the blood picture would show that or not.

DR. ROBERT E. BARNEY: I believe that it was Dr. John Lane, of New Haven, Conn., who reported one of the first cases of poikiloderma in the United States. Dr. Fred Wise is of the opinion that in most cases poikiloderma has a lymphoblastomatous background.

DR. E. W. NETHERTON: There are many features that should be pointed out in this case. In the first place, the patient has had the eruption for eighteen years. Of course, a lymphoblastoma can continue for many years, but eighteen years is a long time for a lymphoblastoma to last, and for examination to reveal normal blood. The violaceous color of the plaques and nodules on the legs is a striking feature of the eruption. Some of the lesions have a verrucous surface and simulate closely lesions of hypertrophic lichen planus. I studied the sections carefully, and I believe that the histologic changes are those found in lichen planus. Study of a section removed from the back, from the area showing poikiloderma-like changes, revealed a sharp, dense, cellular infiltration in the papillary and subpapillary layers, extending slightly into the upper portion of the corium. The infiltrate was mostly lympocytes, with a few fibroblasts and occasional plasma cells. The question of drug eruption, such as a phenolphthalein eruption, was considered. She was given phenolphthalein without any flare-up in the eruption. After twelve injections of bismuth subsalicylate the itching decreased noticeably, and the violaceous lesions on the legs have become much thinner.

Sarcoidosis.

D. B., a white man aged 49, has had intermittent but progressive enlargement of his fingers and toes, especially the joints, for three years. There has been friability and shedding of some of the nails. Small painless nodules have been present for some time on the dorsa of two fingers.

There is swelling and enlargement of all the fingers, especially the phalangeal joints. A suggestion of clubbing of the finger tips is also present. The nails of the left middle, and both ring fingers are friable and broken off, leaving only remnants. The remainder of the finger nails are normal. Several small light red, firm, cutaneous nodules are present on the dorsa of the distal phalanges of the right ring and left middle fingers. The remainder of the physical examination is essentially negative.

The urine and hemogram were normal. The Kahn and Wassermann reactions of the blood were negative. The blood uric acid, calcium and phosphorus determinations were within normal limits. The blood sugar was 133 mg. per hundred cubic centimeters, one and three-fourths hours postprandial. The sedimentation rate was moderately increased. A roentgenographic examination of the bones of the left hand revealed a pathologic fracture of the proximal phalanx of the index finger. All of the phalanges show considerable absorption of calcium, with areas of complete destruction in the distal phalanges of the index and little fingers. Roentgenograms of the chest revealed no abnormalities.

Histologic examination of one of the nodules from the right ring finger revealed a normal epidermis, except for an area of thinning, with loss of the rete pegs over a mass in the corium. In the dermis, a heavy mantle of lymphocytes and epithelioid cells surrounded all of the blood vessels, sweat glands and sebaceous glands. There was a fine, loose reticulum throughout the infiltrate. In the center of the section, under the thinned epidermis, a large nodule, similar in appearance to the perivascular infiltrate, extended from just below the basal layer to the deepest portion of the section. This area was surrounded by an indefinite capsule, formed by compression of the adjacent collagenous tissue. There was no evidence of caseation. An occasional poorly formed giant cell was seen in the infiltrate. The histologic diagnosis was Boeck's sarcoid.

DISCUSSION

DR. HAROLD N. COLE: The changes in the fingers clinically and roentgenograms with radiating shadows in the lungs confirm the diagnosis.

Mycosis Fungoides.

M. S., a white man aged 63, began to have red plaques on his lower legs three years ago. These spread slowly to involve the thighs and hips. At this time the patient's teeth were removed. A physical examination revealed no disease. During the past two years the eruption has become generalized and the plaques have ulcerated, forming rupial crusts. There is no history of drug ingestion.

On admission to the hospital, five weeks ago, the patient presented an unusual generalized eruption consisting of dime-sized to quarter-sized round rupial crusts on a seropurulent base of red granulation tissue. The bases are indurated and had well demarcated rolled borders. There are also large serpiginous indurated dull red plaques, with small rupial crusts around the periphery and atrophy and scarring in the central portions of the lesions. These lesions are most numerous on the buttocks and thighs. There are no vesicular or bullous lesions, and the mouth is normal.

The Kahn and Wassermann reactions of the blood were negative. The hemogram showed only a slight hypochromic anemia and 12 per cent monocytes. The blood sugar level was within normal limits, and the urine was normal.

Histologic examination of a lesion on the thigh showed superficial keratinization of the epidermis, patchy parakeratosis and moderate acanthosis. The basement membrane was everywhere intact. There was a polymorphous infiltrate in the upper third of the corium. This infiltrate consisted of many inflammatory cells, including lymphocytes, eosinophils and large mononuclear cells. Numerous pyknotic cells and some cellular debris were seen in the loose reticulum. There were numerous small vessels, some of which had relatively thick walls. In the section which was presented, there was a group of large, oval, poorly staining cells, with large nuclei and prominent nucleoli, in the central portion of the dermis.

Dr. Harry Goldblatt considered the histologic observations in this case to be compatible with the clinical diagnosis of mycosis fungoides.

Hospitalization, with careful local treatment, resulted in the disappearance of the rupial crusts, leaving annular lesions with ulcerating centers and raised indurated borders which show no tendency to heal. All the raised and indurated plaques and ulcers on the trunk and arms flattened promptly after administration of 100 r of low voltage roentgen ray therapy, leaving annular violaceous pigmented atrophic areas. The right leg received 100 r of low voltage roentgen ray therapy ten days ago and has shown considerable healing. The left leg shows violaceous nodules and plaques, many of which have remained ulcerated in spite of local therapy. The patient has received 10 mg. of testosterone proprionate intramuscularly daily for twelve days in addition to 200 mg. of ascorbic acid daily by mouth, with no apparent change in the lesions.

DISCUSSION

DR. JAMES R. DRIVER: It is rather interesting to note that the man said that he did not have any itching. He states that earlier in the disease there was considerable itching, but that phase of the disease has apparently passed over.

Mycosis Fungoides.

Mrs. J. K., aged 49, came to the clinic on Aug. 10, 1943. She states that she has had "eczema" intermittently since she was 14 years of age. The eruption usually involved the face and popliteal fossae. The cubital spaces had not been involved. Her father and one sister had "eczema"; there was no past or family history of asthma or hay fever.

The present eruption began about November 1941, as an intensely pruritic eruption back of each ear. Her family physician gave her intramuscular injections of splenic extract. After a few injections, the eruption became generalized and intensely pruritic. Vitamin and arsenical therapy, as well as many topical remedies, failed to be beneficial.

In August 1943, she had a generalized desquamating erythroderma. Pruritus was severe, and the superficial lymph nodes were enlarged. A clinical diagnosis of lymphoblastoma was considered. Biopsy sections of an inguinal lymph node and skin of the inguinal region were studied by Dr. Harry Goldblatt. He made a diagnosis of chronic hyperplastic lymphadenitis and early mycosis fungoides.

Repeated hemograms failed to show any evidence of blood dyscrasia. There was a persistent eosinophilia, varying from 22 to 12 per cent. The Wassermann and Kahn reactions of the blood were negative.

Low voltage roentgen ray therapy, consisting of 11 treatments of 75 r each, has been beneficial.

At present, the skin of the trunk, face and arms is almost normal. There are areas of nodular verrucous thickening on the pretibial areas and small thickened plaques back of the ears and beneath the left breast. Pruritus is not troublesome.

A recent biopsy of the skin showed a moderate degree of acanthosis. Otherwise, the epidermis showed no abnormality. There was edema in the papillary and the subpapillary portion of the corium. There was a moderate diffuse infiltration in the upper portion of the corium. This consisted of large and small mononuclear cells and eosinophils. A section of the lymph node showed chronic hyperplastic lymphadenitis.

Dr. Harry Goldblatt's opinion was that the diagnosis rested between Hodgkin's disease and mycosis fungoides. He favored a diagnosis of early mycosis fungoides.

DISCUSSION

DR. E. W. NETHERTON: The clinical appearance has changed much as a result of low voltage roentgen ray treatments. The patient is improved. When she was first seen, the skin on her legs and abdomen was thickened. The histologic diagnosis by Dr. Goldblatt was mycosis fungoides or Hodgkin's disease but I favor mycosis fungoides.

HAWAII DERMATOLOGICAL SOCIETY

JAMES T. WAYSON, M.D., *President*†

HARRY L. ARNOLD JR., M.D., *Secretary*

Feb. 5, 1944

A Case for Diagnosis (Secretory Nevus?). Presented by DR. HARRY L. ARNOLD JR.

T. S., a 20 year old Japanese man, was first seen in December 1943, because of a lesion on the left side of the neck which had been present for about two and one-half years. This was a sharply outlined, irregularly oval patch about the size of a silver dollar which was slightly raised, hypopigmented and definitely moister than the surrounding skin and sprinkled with large greasy comedos. A similar but linear lesion about

† Dr. Wayson died Jan. 17, 1945.

1 cm. broad extended forward and upward like a "tail" from this patch to a point just in front of the lobe of the ear. While the lesion was being photographed, it was observed under the heat of the lights to become beaded with huge droplets of sweat far out of proportion to the amount of perspiration on the surrounding normal skin.

Biopsy showed a relatively normal epidermis except for a seemingly increased number of *cellules claires* and many similar cells distributed in the upper portion of the corium, together with several chromatophores laden with melanin. A typical comedo was noted in some sections and a decided increase in the number and size of both sweat and sebaceous glands. The tissues otherwise appeared normal.

DISCUSSION

DR. HARRY L. ARNOLD JR.: I was inclined to view this as a physiologic rather than a morphologic nevus. The descriptions of nevus comedonicus and the few lesions of that sort that I have seen previously do not suggest that it is associated with any particular hypersecretion of sebum or any disturbance of perspiration at all; indeed, Sweitzer and Weiner emphasized absence of sebaceous glands and lack of involvement of sweat glands.

CAPT. HERBERT LAWRENCE, M.C., A.U.S.: Morphologically, however, it is a nevus comedonicus.

Leprosy, Neural Tuberculoid. Presented by DR. HARRY L. ARNOLD JR.

E. C., a 20 year old part Hawaiian woman student, was first seen in July 1943, because of a numb area on the right calf first noticed in April of that year. On examination the area in question was found to be oval and about 8 by 10 cm. in size; it was slightly warmer to touch than the corresponding contralateral area, and its border was barely perceptibly infiltrated—a feature noticeable only on repeated deep palpation. Pigmentation was unaltered, and perspiration was not present on either side. The entire area was anesthetic to light touch and to heat and cold; a careful survey of the remainder of the skin surface revealed no additional areas of thermal anesthesia anywhere. No palpable nerve trunks were found anywhere except the ulnar, and these felt normal.

A biopsy was made, and smears from the tissue removed were negative for acid-fast organisms. The sections showed seven or eight patches of sharply outlined histiocytic infiltrates with an admixture of lymphocytes deep in the corium and in the superficial portion of the hypoderm; some of these suggested by their architecture that they represented involved nerve trunks. Some were about hair follicles and sweat gland acini. Staining procedures disclosed no acid-fast organisms initially, but subsequent study of multiple sections revealed several typical bacilli in the granulomatous foci.

DISCUSSION

MAJOR GERARD DE OREO, M.C., A.U.S.: This case well exemplifies the newer classification of leprosy; it would be difficult to classify this under the old scheme as either neural or cutaneous.

DR. HAROLD M. JOHNSON: Clinically, I should classify it as simple inflammatory (as described by Pardo-Castello) because there is nothing abnormal to be seen on inspection.

MAJOR EDWIN K. CHUNG-HOON, M.C., A.U.S.: That was the most interesting thing about this case; there was no cutaneous lesion that one could see. We were unwilling to regard this patient officially as a leper because there were no demonstrably involved nerve trunks, no organisms and no visible or palpable lesion—merely the anesthesia. As to the prognosis, now that the diagnosis is established: One cannot tell what will happen. This patient may proceed to get well now, or she may go on for years and later have active tuberculoid lesions or even—although it would be unusual—have active nodular lesions. Anything can happen. I think that in this case the wise thing would be to consider the patient as on a paroled status.

DR. HARRY L. ARNOLD JR.: This case also well exemplifies the lengths to which leprologists will go in their abuse of the word "macule." They would call the invisible anesthetic area presented by this patient a tuberculoid macule, and they would apply the same term to a beefy red plaque elevated 1 cm. above the surrounding skin if it were a leprous lesion containing no, or at most, very few acid-fast bacilli. Editors should invariably require them to enclose the word in quotation marks. They should also enclose the word nodule in quotation marks, because what they mean by a "nodule" is a palpable, ordinarily elevated leprous lesion containing Mycobacterium leprae in abundance.

Another instructive thing about this case is the fact that Dr. Tilden was able to demonstrate the organisms only after a painstaking study of a large number of sections. It is possible that this technic will prove more successful than multiple "snips" ("scraped incisions": smears of tissue juice), which is the usual and most convenient method of search for them.

Psoriasis; Arsenical Keratoses; Superficial Epitheliomatosis. Presented by DR. FRANK L. PUTMAN.

H. M., a 39 year old male office worker, was first seen on Jan. 21, 1944, because of "sores," the first of which had been observed and removed in October 1941 and said to be a skin cancer. These began to appear in larger numbers about eight months ago. He has had psoriasis since childhood, for which he says he was given arsenical injections—number, nature, dosage and duration of treatment unknown. His palms and soles have been rough and horny for fifteen years or so.

A total of twelve of the "sores" have been excised within the past ten days, and all have shown multicentric superficial basal cell carcinoma on section.

DISCUSSION

DR. HAROLD M. JOHNSON: Although there were none of the epitheliomatous lesions left macroscopically, the microscopic diagnosis is clearcut.

DR. HARRY L. ARNOLD JR.: This is another case to support Dr. N. P. Anderson's view that arsenic commonly plays a part in the development of this peculiar multiple superficial form of epithelioma.

A Case for Diagnosis (Purpura Annularis Telangiectodes?). Presented by DR. HARRY L. ARNOLD JR.

J. M., a 24 year old woman stenographer, was first seen in December 1943, because of a five month old eruption, limited to the lower legs, of telangiectatic and purpuric annuli, varying from 1 to 8 cm. in diameter and numbering only about six in all. The overlying epidermis was smooth and not apparently atrophic. She stated that she bruised easily but did not bleed from the gums or unduly from cuts.

A blood count showed 4,000,000 red cells, 93 per cent hemoglobin (11.7 Gm.), 15,200 white cells (polymorpho-

nuclears 74 per cent, lymphocytes 20 per cent, monocytes 4 per cent and eosinophils 2 per cent) and 70,550 platelets. The bleeding time was three minutes and the clotting time five and one-half minutes; the prothrombin time was within normal limits; the clot retraction time was normal, and the tourniquet test showed only one petechia at five minutes. A blood count a week later showed essentially the same values except for 10,000 white cells with 8 per cent eosinophils and 230,550 platelets per cubic millimeter.

Histologic examination showed dilatation of capillaries in the upper part of the corium and a chiefly lymphocytic infiltrate about them.

The administration of vitamin C (100 mg. of ascorbic acid twice daily for nearly two weeks) had no perceptible effect on the lesions.

DISCUSSION

DR. HARRY L. ARNOLD JR.: It is my impression that Majocchi's disease is sufficiently rare that some elasticity of the diagnostic criteria may be allowed. It is my impression from textbook descriptions that large numbers of very tiny annuli are the rule rather than the very large ones which comprised the bulk of this patient's eruption.

DR. HAROLD M. JOHNSON: I agree with the diagnosis as presented.

MAJOR GERARD DE OREO, M.C., A.U.S.: I think that it is an endarteritis and may well be the particular variety of endarteritis which Majocchi called purpura annularis telangiectodes. Bismuth is so useful for lupus erythematosus—which may belong in the same general group—that I should be inclined to try it on this patient.

CAPT. HERBERT LAWRENCE, M.C., A.U.S.: Since neither the exact nature nor the cause of Majocchi's disease is known and since this fits the clinical picture of that disorder only approximately, I think it might be a mistake to close one's mind after merely giving it this name. The patient told me she had been having pains in joints, particularly since the appearance of this eruption. Her disease might be considered from the standpoint of one of the allergic purpuras and the possibility of systemic allergy investigated.

Acanthosis Nigricans, Juvenile Type. Presented by DR. FRANK L. PUTMAN.

P. M., a 24 year old part Hawaiian woman, first noticed a brownish ring about her neck about three months ago, which has gradually increased in width and in depth of color. About two months ago she noted roughening of the hyperpigmented skin. About three weeks ago she noted a similar lesion on her chin. There were no associated subjective symptoms.

There is no family history of tuberculosis, malignant disease or any dermatosis similar to the patient's. She has had the usual childhood diseases; she has always had severe menstrual cramps but with normal menstrual periodicity and flow; she has never been suspected of having tuberculosis or a malignant growth. She has gained 63 pounds (28.6 Kg.) in the past two years.

She presents linear patches of hyperpigmented velvety-feeling skin about the lower portion of the neck and across the chin below the lower lip. There is pronounced hyperpigmentation in the right axilla.

She has been given vitamin A, 150,000 units daily.

DISCUSSION

The members agreed with the diagnosis as presented.

Late Nodular Cutaneous Syphilis. Presented by DR. HARRY L. ARNOLD JR.

J. B., a 74 year old Portuguese man, has a widespread symmetric eruption of a dozen or so pigmented macules 5 to 10 cm. in diameter with serpiginous borders, most of which present along their margins occasional juicy pink papules and nodules.

The Kolmer, Wassermann and Eagle reactions of the blood are strongly positive (64 Eagle units). There is a history of urethral discharge some fifty years ago; he states that he has had no sores, rash, persistent sore throat, adenopathy and alopecia, and that no previous blood tests have been made.

DISCUSSION

MAJOR GERARD DE OREO, M.C., A.U.S.: I think that this case belongs in the group of cases of neurosyphilid of Unna. These are gummas in the sense that they are late cutaneous manifestations of syphilis, but they are symmetric, multiple and nondestructive. If there were any likelihood that his syphilis was of recent origin, this could be called precocious tertiarism.

CAPT. L. H. ROSENTHAL, M.C., A.U.S.: I should be inclined to call these extensive nonulcerative gummas which merely happen to be multiple and symmetrically distributed.

DR. HARRY L. ARNOLD JR.: That is my feeling as well. I think that this case merely represents a not too rare exception to the rule that gummas are usually few, asymmetric and destructive.

A Case for Diagnosis. Presented by MAJOR GERARD DE OREO and CAPT. L. H. ROSENTHAL, M.C., A.U.S.

F. W. P., a 25 year old white soldier, was seen because of an erythematous nodule on the right side of the chin, which has been present for nine months and has been gradually growing until it has attained the size of a small plum. The lesion has always exuded a clear yellowish sticky discharge. Seven months ago, similar nodules appeared on the lower forehead area and the left preauricular area. The former have continued, but the latter subsided after a few months. The patient has been in this area for the past two years. For the past four weeks he has been given saturated solution of potassium iodide, receiving 50 drops three times a day for the past three weeks. The lesions have been getting smaller, but new nodules have appeared on the forehead. Last week both lesions were given 75 r of roentgen radiation. Cultures for fungi and bacteria have been negative.

Biopsy revealed a granulomatous infiltrate composed of epithelioid cells, eosinophils and new fibrous tissue. Slight acanthosis was present.

The blood picture was normal. Roentgen examination of the chest and mandible showed nothing abnormal.

DISCUSSION

MAJOR EDWIN K. CHUNG-HOON, M.C., A.U.S.: This lesion was a granuloma of unknown origin.

DR. HARRY L. ARNOLD JR.: The biopsy impressed me as being somewhat obscured by chronicity and scar formation. I suggest another biopsy, this time of one of the early nodules above the left eyebrow.

MAJOR GERARD DE OREO, M.C., A.U.S.: Does any one think the lesions of lupus erythematosus might reach the proportions of the lesions in this case? I wonder, too, whether this might be an unusual sarcoid or tuberculosis of the skin.

Pseudoepitheliomatous Hyperplasia Following Herpes Simplex. Presented by MAJOR GERARD DE ORIO and CAPT. L. H. ROSENTHAL, M.C., A.U.S.

J. C. S., a 23 year old white soldier, had a herpetic lesion of the lower lip one month ago. A dark field examination at that time disclosed no organisms. At present the patient has an indurated, button-like lesion of the left side of the lower lip. The central portion is covered with a thick, firm adherent crust.

A biopsy one week ago revealed the presence of hyperplasia.

For the past two days, the patient has been receiving 2½ grains (1.46 Gm.) of sulfadiazine three times a day and sulfadiazine ointment locally. There has been a decided decrease in the size of the lesion, with some loss of induration.

DISCUSSION

CAPT. L. H. ROSENTHAL, M.C., A.U.S.: When this patient first returned after the initial diagnosis of herpes was made, we were appalled by the large indurated lesion that he presented; the border was rolled and the center ulcerated. We were almost sure it was epithelioma.

DR. HARRY L. ARNOLD JR.: Despite the histologic observations in this case, the appearance is so suggestive of epithelioma now that I think only the spontaneous involution of this lesion can positively exclude that disease.

MANHATTAN DERMATOLOGIC SOCIETY

ANTHONY C. CIPOLLARO, M.D., *President*

WILBERT SACHS, M.D., *Secretary*

Feb. 8, 1944

A Case for Diagnosis (Riehl's Melanosis?). Presented by DR. GEORGE C. ANDREWS.

W. Z., a man aged 50, works in a brewery. He has been doing this work since January 1943. Last June his attention was first called to pigmentation on his forehead. This is rather sharply limited and brownish red and extends in band shape over the forehead but is most pronounced over the frontal bosses and absent in the midline. The pigmentation does not extend into the scalp. It is not present in the mouth or on other parts of the face. It seems to be worse in summer.

He uses Kreml Hair Tonic and Wildroot Hair Tonic each Sunday. While at work he wears a machinist's cap and over this a mask to protect his face from broken bottles. The mask is leather lined. He takes no internal medication except Weber's Herb Tea about once every three months. He uses no cologne water.

DISCUSSION

DR. E. W. ABRAMOWITZ: Dr. Andrews says that the patient uses Kreml Hair Tonic, which contains some mineral oil. It is possible he has a melanosis from the use of the oil on the scalp.

DR. HERMAN SHARLIT: I think that all dermatologists see cases of this kind and when there is a biopsy, the distinguishing characteristic of the skin is that the pigmentation is in the true skin and not in the epidermis. The diagnosis of Riehl's melanosis covers all of them, but it does not tell us how it develops. I am interested in how the patients get this eruption. The history in these cases is irregular, and there is no connecting link. The pigment is always in the true skin. Of course the question as to whether or not physiologic pigment can be deposited in the cutis without its originating in the epidermis is the question that has been raised in connection with this whole problem. However, it looks like melanin under the microscope.

DR. GEORGE C. ANDREWS: Three factors suggest themselves in this case. One is the deodorized kerosene in one hair tonic. The second is the arsenic in the other hair tonic. The third is the potassium dichromate in the leather. It impresses me that there is more of a melanosis than a deposit of metallic pigment. I suspect it is more related to the kerosene than it is to the arsenic or to the bichromate.

A Case for Diagnosis (Localized Scleroderma?). Presented by DR. GEORGE C. ANDREWS.

W. B., a boy aged 15, is presented from the Vanderbilt Clinic. Four years ago a brown spot developed on his back, and this has since spread to form an extensive pigmented eruption over the midportion of the trunk. He has not received any treatment for the eruption or done anything about it. Within the last few days generalized itching has developed, for which complaint he came to the clinic on the day preceding presentation.

Over the midportion of the back and midportion of the trunk, there is a dark brown pigmentation of uniform density. The patches are well defined, lobulated and fused into a large band that encircles the midtrunk. One gets the impression that the patches are somewhat depressed and atrophic. There is no history of taking drugs except Ex-Lax two or three times a year.

DISCUSSION

DR. DAVID BLOOM: On several occasions, in association with plaques of scleroderma, I have seen bluish plaques suggesting mild atrophy which on microscopic examination in 1 instance revealed the features of scleroderma. The lesions in this patient remind me of those bluish plaques. I favor, therefore, the diagnosis of scleroderma in this case.

DR. HERMAN SHARLIT: If it is scleroderma, then the sclerodermatous changes have not arrived yet. I see only discoloration of the skin. If the experiences of some reveal enough in the present clinical picture to anticipate the true changes of scleroderma, well and good.

DR. MAURICE J. COSTELLO: I think that the patient has had lesions of scleroderma and that they have undergone involution. No new lesions have appeared recently.

DR. GEORGE C. ANDREWS: It is very difficult to get any history out of this patient about a preceding eruption.

DR. JACK WOLF: I agree with the diagnosis of scleroderma. Aside from the fact that the eruption is extensive, it is in every way similar to the pigmented patches occasionally encountered in association with clinically characteristic patches of scleroderma. The histologic picture will be of interest and will aid in establishing the diagnosis.

DR. FRED WISE: I agree with Dr. Wolf. French dermatologists have described the occurrence of pigmentation preceding scleroderma in situ. In such instances the skin gives no evidence of sclerosis until a lapse of months or years following the pigmentation.

DR. WILBERT SACHS: About ten or twelve years ago Dr. Satenstein sowed a patient of mine with similar lesions at the Manhattan Dermatologic Society.

The diagnosis at that time was poikiloderma. In the discussion the question arose whether it was poikiloderma or the atrophic type of scleroderma. I personally have never seen a real scleroderma go on to atrophy, but cases of its occurrence have been described. This patient showed lesions which to me seemed atrophic rather than sclerotic. I think it is probably a poikiloderma type of lesion rather than scleroderma.

DR. E. W. ABRAMOWITZ: This is the most interesting case presented this evening. Since this boy has been under observation for four years, he should have had scleroderma by now if there was indication that he was going to get it, and if he had had scleroderma previously it would have been noticed. It is true that there is a slight depression of the pigmented skin at the edge of the lesions. That may be a false perspective, however, on account of the play of light on the pigmented area. So far none of the suggestions made satisfy me. I thought of the possibility that this boy may have a pigmentation following an extensive phenolphthalein eruption. He takes Ex-Lax, but I obtained no history of any redness, which of course is a sine qua non of that type of eruption. I think that this patient should be presented again. Perhaps a biopsy would help. I do not know exactly where to class this case.

DR. GEORGE C. ANDREWS: I have under my care another child, about 8 years old, who has typical scleroderma of the back surrounded by pigmentary lesions of this character, which are somewhat depressed and have a similar appearance. The sclerodermatous patches are about 1½ inch (3.8 cm.) in diameter, and the pigmented patches are perhaps 10 inches (25 cm.) across or even larger. They cover almost the entire back. I can therefore conceive that this patient presented tonight also has a pigmented type of scleroderma.

Acute Disseminated Lupus Erythematosus. Presented by DR. MAURICE J. COSTELLO.

A. K., a woman of Scandinavian birth, aged 34, from the dermatologic wards at Bellevue Hospital, states that in the summer of 1941 she had an eruption which she believes followed sunburn. The eruption persisted until the winter of 1942, when it disappeared. It reappeared the following summer (1943). There has been no remission since that time.

She was admitted to the wards of the Skin and Cancer Unit of the New York Post-Graduate Medical School and Hospital in November 1943, because of high fever and exacerbation of the eruption. She remained there until her admission to Bellevue Hospital, on Jan. 3, 1944.

In addition to a temperature of 101 to 104 F., rapid pulse and respiration, the patient presents a diffuse erythema affecting the face, forehead and lips, with distinct circumoral pallor. There is moderate edema of the eyelids, cheeks and lips. There is hyperpigmentation of the forehead, cheeks, sides of the neck and V of the chest. There is fine scaling and thinning of the hair of the frontovertical regions of the scalp. There are a number of pea-sized areas of denudation of the mucous membrane of the palate.

On examination the urine was normal. The erythrocyte count was 3,630,000 per cubic millimeter. The leukocyte count was 5,300 per cubic millimeter, with 60 per cent polymorphonuclear leukocytes, 34 per cent lymphocytes, 2 per cent monocytes and 4 per cent basophils. The erythrocyte sedimentation rate (Westergren) varied between 70 and 180 mm. in one hour. The electrocardiogram was normal. Roentgenographic examinations showed that the lungs, the heart and the large joints were normal.

Treatment has consisted in absolute rest in bed, intramuscular injections of crude liver extract and ferrous sulfate and vitamins orally.

DISCUSSION

DR. ISADORE ROSEN: I believe that this patient is suffering from a mild variety of the exanthematic type of lupus erythematosus. The fever, with lesions on the palms associated with telangiectatic lesions on the fingers, connotes a constitutional vascular disturbance. She probably has similar lesions in some of the internal organs, especially the kidneys. Although she is a little over the age for the exanthematic type, I believe that her disease falls into this group.

DR. MAX SCHEER: I agree with the diagnosis. It is a typical case.

DR. FRED WISE: I agree with the diagnosis as presented and am puzzled about the absence of leukopenia in cases of this kind.

DR. JACK WOLF: Leukopenia is variable. Patients who are extremely toxic and who have considerable cutaneous involvement, loss of hair and nails and involvement of the kidneys and the liver show the greatest decrease in the number of white blood cells. The patient presented tonight is not so acutely ill, and the white cell count is only moderately depressed.

DR. J. C. HATHAWAY, Spokane, Wash. (by invitation): I do not know whether it is just coincidence or not, but I do not recall a patient with acute disseminated lupus erythematosus who has not been below normal mentally. Perhaps it has been only my own experience but most of the patients I have happened to see have been of the housemaid type or of about that degree of mentality.

DR. BEN KANEE (by invitation): I should like to add something on this particular patient. She had been a patient at the New York Post-Graduate Medical School and Hospital, and I had occasion to attend her. During her stay there she had a septic course with a low grade temperature and she had signs of a disturbance of the hemopoietic system, inasmuch as her platelet count was as low as 100,000. The white blood cell count varied from 4,000 to 5,000. The sedimentation rate varied from 25 to 70 mm. per hour. She was discharged on one occasion from the hospital with a normal temperature and was observed at home for a week and then returned with an elevation of temperature and exacerbation of her lesions. Now during her stay at Bellevue Hospital it is to be noted that her sedimentation rate is as high as 110 mm. per hour and she has a white blood cell count of 5,000. She still has attacks of fever in spite of total rest in bed, liver and good hospital care. I believe that she has acute lupus erythematosus and that the prognosis must be guarded.

DR. MAURICE J. COSTELLO: I believe that this patient has acute lupus erythematosus of the disseminate type and that the prognosis is extremely poor. I think that the disease is in a quiescent phase at this time. The majority of patients I have seen with acute lupus erythematosus have had a depressed leukocyte count, especially if they had fever and a rapid sedimentation rate. The blood sedimentation rate of this patient was determined by the Westergren method: The rate of 110 mm. in one hour indicates that the patient is extremely toxic.

Extensive Secondary Hypertrophic Annular Papular Syphilid Treated with Penicillin. Presented by DR. MAURICE J. COSTELLO.

A. B., a Negro woman aged 20, from the dermatologic wards of Bellevue Hospital, presents an unusually extensive, elevated papular syphilid, with gyrate, annular and polycyclic figures forming bizarre patterns on the face, neck, trunk and extremities. There are moist papules on the lips, mouth, labia and perianal region.

Dark field examination for Treponema pallidum was positive, and the Wassermann reaction of the blood was 4 plus.

During the past week the patient has received a total of 560,000 units of penicillin subcutaneously. This was administered in 10,000 unit doses at three hour intervals eight times a day for seven days. The positive dark field examination of lesions became negative for Spirochetes after twenty-four hours of this form of therapy, and there was dramatic involution of the eruption.

DISCUSSION

DR. MAX SCHEER: I have had no experience with the treatment of early syphilis with penicillin. I heard Dr. Mahoney give his presentation on two occasions, and this therapy looks promising.

DR. JACK WOLF: The clinical picture in this case is bizarre, unusual and very interesting. It is not often that one sees such a striking pattern produced by coalescent annular, papular secondary lesions.

DR. FRED WISE: I think that the case is interesting from two standpoints. One is the clinical picture; it is a most unusual and widespread eruption for secondary syphilis. The other is the fact that the patient is being treated with penicillin. I understand that the lesions do not respond any faster with penicillin than with arsphenamine but that the spirochetes are killed much faster. That is one of the great advantages of penicillin, that the source of infection is eliminated much more promptly.

DR. GEORGE M. LEWIS: Has there been any reversal of the serologic reactions of the blood?

DR. MAURICE J. COSTELLO: The patient has been under treatment only five days, which is too short a time to have a reversal of the serologic reactions.

DR. E. W. ABRAMOWITZ: As I understand from Dr. Mahoney's talk, the dosage of penicillin established at present is purely arbitrary. Herxheimer reactions have occurred, with an actual aggravation of the eruption in the beginning, just as has occurred with the arsphenamines. I understand that patient was treated every three hours, which means that some one has to stay up day and night to treat a patient by this method. I do not think that there is any doubt of the effectiveness of this drug. I understand that several thousand patients have been treated so far, and the investigators are waiting for the results of spinal fluid examination and they are hoping of course that no relapses will develop as there did in the early days of the use of arsphenamine, when remarkable cures were reported with negative serologic reactions followed by severe relapses. One hopes that this does not occur with penicillin, but one must of course wait and see. It is certainly a remarkable drug. There is a report from the Mayo Clinic of a patient with tertiary syphilis treated with beneficial effects, but there was no effect on the spinal fluid in the short time that the patient was observed.

DR. DAVID BLOOM: Considering the fact that the lesions were raised and infiltrated before treatment, one must consider the result of the penicillin therapy at least equal to the effect of arsphenamine.

DR. MAURICE J. COSTELLO: These patients were given 10,000 units of penicillin subcutaneously every three hours, eight times a day, for seven days. They receive a total of 560,000 units. Penicillin does not appear to have a favorable effect on chancroid or Vincent's infection. It does have a beneficial effect on granuloma inguinale.

Acute Disseminated Lupus Erythematosus. Presented by DR. FRED WISE.

H. R., a man aged 45, a custodian in a children's health station, registered at the Skin and Cancer Unit of the New York Post-Graduate Medical School and Hospital on Feb. 3, 1944, presenting lesions of four weeks' duration. He complains of severe itching. Ten years ago he had a moderate sunburn. A month before the eruption appeared he used a heat lamp on the face ten minutes a day for three consecutive days. He gives no history of drug ingestion prior to this eruption. It appeared first in the retroauricular regions, and then the cheeks, scalp, upper lip and the elbows became successively affected.

The lesions are symmetric, involving the scalp, face, nose, extensor surfaces of the elbows and extensor surface of the right forearm. They are purplish red on an erythematous base. The eruption consists of matchhead to pea-sized and larger macules and maculopapules, discrete and grouped, forming irregular patches as seen on the extensor surface of the right forearm. They are covered with adherent crusting and scaling which on removal reveal patent follicles and bleeding points. There are no lesions on the oral mucosa.

The routine laboratory tests gave normal results. From a histologic section taken from a lesion on the right side of the face, examined by Dr. Charles F. Simms, the disease was diagnosed as lupus erythematosus.

DISCUSSION

DR. JACK WOLF: I agree with the diagnosis of acute discoid lupus erythematosus. Instances in which acute discoid lupus erythematosus have followed exposure to heat and to heat lamps have been recorded, and it is not unlikely that the heat lamp precipitated the attack in this case.

DR. DAVID BLOOM: At the Atlantic Dermatologic Conference, I believe at the last session, a number of cases of lupus erythematosus were presented in which trauma other than ultraviolet irradiation was shown to be the exciting cause. In this patient the heat rays probably played the role of the exciting agent.

Mixed Tumor of the Hard Palate; Syphilis. Presented by DR. DAVID BLOOM.

W. B., a Negro man aged 45, came to the Skin Clinic of the Sydenham Hospital with a swelling of the left side of the palate and the left maxillary region of nine months' duration. He first noticed the swelling of the hard palate, and gradually the swelling of the left maxilla developed.

On examination the entire left side of the hard palate shows a considerable thickening with an uneven surface, of firm consistency. The left maxilla presents a swelling, which is apparently the extension of the tumor from the palate and which is also of firm consistency.

Biopsy of the tumor of the palate was reported at the Surgical Clinic of the Columbia University Medical

Center to indicate that the growth is a "composite tumor, probably of the invasion type."

Roentgenograms of the sinuses revealed a "rather large symmetric frontal sinus, definite cloudiness of the left antrum and apparently an erosion of the medial and lateral wall of the antrum. Probable invasion of the tumor into the maxillary bone. The left nasal cavity was somewhat obstructed, particularly posteriorly, by the tumor mass."

The patient has also latent syphilis, which was discovered in 1937. At that time he received during five and one-half months intravenous and intramuscular antisyphilitic therapy.

General examination did not reveal any other abnormality except the tumor of the palate and maxilla. Laboratory examinations showed a strongly positive Wassermann reaction of the blood and considerable lowering of the hemoglobin content and the red cell count of the blood.

The patient is receiving injections of bismuth subsalicylate. He states that the pain and discomfort which the tumor has been causing have disappeared following a few injections of bismuth. He insists that the size of the swelling of the left side of his face has also diminished.

DISCUSSION

DR. FRED WISE: The patient has syphilis, and I do not believe that there is any causal relationship between the tumor and the syphilis.

DR. WILBERT SACHS: I have seen a similar lesion, a giant cell tumor arising in the antrum. I understand that Dr. Bloom said this tumor arises from the mucous membrane. I do not understand what type of mixed tumor would be arising from the mucous membrane. I am referring to the giant cell tumors of bone, not of the soft tissues.

DR. E. W. ABRAMOWITZ: There has been a survey of mixed tumors of the salivary glands (*Proc. Staff Meet., Mayo Clin.* **17**:593 [Dec. 16] 1942). They are highly malignant and metastasize, requiring radical surgical treatment. These tumors arise from the salivary glands (submaxillary and parotid). Dr. Bloom's report that this tumor is said to have receded under treatment with a few injections of bismuth subsalicylate may indicate a syphilitic osteitis.

DR. ISADORE ROSEN: This case really belongs to the field of oral surgery, where experience in the interpretation of roentgenograms is highly developed. In view of the fact that the patient has a strongly positive Wassermann reaction, I should treat him with injections of a bismuth preparation for a few weeks before any surgical intervention is undertaken. One sees syphilitic involvement of the bones of the jaws.

DR. MAX SCHEER: I agree entirely with what Dr. Rosen said. I believe that this man should have antisyphilitic treatment.

DR. MAURICE J. COSTELLO: I was under the impression that gummas of the hard palate had a rather rapid course. Since nine months have passed, there would be ulceration and perforation of the palate by this time if the lesion were a gumma.

DR. GEORGE M. LEWIS: There is a positive histologic report in this case. It is known that the growth is a tumor and not a syphilitic lesion. Therefore, I am not at all certain that the person who is going to operate should not be consulted soon as to whether he wants to delay the operation for antisyphilitic treatment.

DR. WILBERT SACHS: My question was asked for this reason: My concept of a teratoma is that it arises in the testes or in a parotid gland and is a highly malignant tumor.

DR. DAVID BLOOM: As a dermatologist is likely to be consulted in cases of early mixed tumor of the palate, this case should be of interest to this society. The statement of the patient that the pain caused by the tumor has subsided and the size of the tumor has diminished since he has received a few injections of bismuth subsalicylate is of interest. However, I am certain that surgical intervention is unavoidable.

Book Reviews

Dermatología. By Dr. Antonio Peyri. Price, not given. Pp. 331, with illustrations. México, D. F.: Compañía General Editora, S. A., 1943.

This short work by the well known dermatologist from Barcelona, Spain, who is now professor of dermatology at the University of Nueva Leon, Monterrey, Mexico, is one of a series of medical monographs. The author's statement in the foreword that his aim was to set down actual knowledge of the most frequently encountered dermatoses for the purpose of teaching medical students explains why the volume is neither a treatise nor a complete manual of dermatology and why, with certain exceptions, only the most essential topics are discussed.

In the brief chapter on general cutaneous physiology, the concept of the skin as an organ is emphasized and the importance of its bacterial flora, particularly with regard to "facultative" behavior and relation to p_H, is stressed. The appraisal of chemical reactions, secretions and chemical and metabolic processes is intelligent and up-to-date, but the allergic functions are merely mentioned. The chapter on symptomatology contains some statements with which most North American dermatologists will not agree—for example, that lesions produced by congestion are called erythema when localized and erythroderma when generalized. The author's concept of the "allergic" dermatoses (the quotation marks are the reviewer's) is practically that of Sulzberger, whose classification is given. Dermal and epidermal tests are discussed in detail, and the possibility that functional changes may be produced by alterations in the sympathetic nervous system is mentioned.

The classification of eczema as protopathic, allergic or eczematoid sheds no light on a difficult and confused subject, especially since no effort is made to differentiate between epidermal and dermal sensitization. The roentgen therapy recommended for eczema is startlingly high in dosage (150 r three to five times at weekly intervals).

The well written chapter on the occupational dermatoses stresses their importance; it contains some useful practical points, such as that the dorsa of the hands and not the palms are predominantly involved and that a sharp division between topical caustic effect and hypersensitivity to a substance does not exist. The legal responsibilities inherent in testing are concisely outlined. The section on vitamins is competently written but contains some questionable and misleading statements. No mention is made of the stabilizing influence of certain vitamins on the allergic state, and the suggested indications for the administrations of vitamin A are too limited and the recommended doses too small.

Objections will be raised to some statements in the brief outline on psoriasis, such as that which lists epithelioma, eczematization, mycosis fungoides, furunculosis and exfoliative erythoderma as complications. To call mycosis fungoides a complication of psoriasis, is to make the tail wag the dog! Furunculosis afflicts patients with psoriasis so rarely that many dermatologists have never observed it. An exfoliative dermatitis is a complication which as a rule can be traced to provocative local measures. The suggestions that solution of potassium arsenite should be administered in intermittent courses "to maximum tolerance" and that 75 to 80 r weekly be given four or five times should not be included in a compendium for students. The remark concerning the appearance and recurrence of psoriasis coincident with "sexual modifications" (puberty, sexual activity, menopause, pregnancy) is interesting.

The discussion of the bullous dermatoses is unorthodox. The inclusion of epidermolysis bullosa in the group may be justified by purely morphologic considerations, but the lack of etiologic distinction between dermatitis herpetiformis and pemphigus is somewhat disconcerting, and the inclusion of pompholyx of the hands as a localized form of dermatitis herpetiformis is a novel concept. To state that pemphigus foliaceus is an occasional outcome of dermatitis herpetiformis is misleading; what is apparently meant is that a foliaceous form of dermatitis herpetiformis may exist. The too brief, oversimplified discussion of acne does not do justice to a dermatosis which is important both to the practitioner and to the student. In the surprisingly detailed discussion on chancroid the importance of symptomless carriers in the spread of the disease is stressed.

In the chapter on cutaneous tuberculosis the theoretic aspects of tuberculous infection are thoroughly discussed and the importance of realizing that the patient with a limited cutaneous lesion has systemic tuberculosis is particularly well stated. The classification of tuberculosis is soundly formulated on the underlying states of initial anergy, allergy, hypallergy and positive and negative anergy, but the inclusion of such etiologically undetermined entities as angiokeratoma and pityriasis rubra as clinical forms of hyperallergic tuberculosis appears peculiar. No evidence is presented in support of the assertion that "lupus erythematodes is a syndrome of possibly multiple causation, practically always tuberculous." The author seems to have suprising faith in the therapeutic effect of tuberculin; he also highly recommends injections of gold preparations and the Gerson diet. Again, the suggestion that roentgen and radium therapy be employed in local treatment might better have been omitted.

The seventy-six page section devoted to leprosy, the longest and most valuable in the book, is complete and up-to-date. The old division of the disease into cutaneous and nervous forms is branded as false, and the relatively new histologic classification (lepromatous versus tuberculoid) is presented in great detail and discussed from immunologic and allergic points of view. Much space is given to the significance of the lepromin reaction of Mitsuda. The great variety of the early signs and symptoms, made known relatively recently by the work of the school of Culion, is stressed. The prognostic value of the sedimentation test and the diagnostic usefulness of the histamine test are emphasized. Every phase of the treatment of leprosy is well covered.

The chapter on the dermatomycoses appears superficial and incomplete, and the usefulness of an eight page sketch on syphilitic lesions is more than doubtful, particularly when it includes statements such as that "the chancroids of the skin of the penis are always syphilitic (Audy)." The handling of *mal del pinto* is a marvel of clear, complete discussion, but the same cannot be said of the sections on the leishmaniases and granuloma inguinale, which are considered together,

apparently because they respond to the same methods of treatment. The advice not to treat the "light" forms of leukoplakia is completely sound.

The last chapter consists of an excellent, concise presentation of malignant disease and the precancerous dermatoses. The classification of premalignant lesions is rather radical in that senile keratosis, Bowen's disease and Paget's carcinoma are placed together as "epitheliomas ab initio." The existence of an infinite series of histologic degrees of malignancy, ranging from slight intraepidermal atypy to full blown squamous cell epithelioma, is emphasized. The treatment of malignant lesions is well covered and includes an exposition of modern roentgenologic technic. The reviewer liked especially the closing words: "The possession of a medical degree and a roentgen apparatus does not suffice to qualify one to treat cutaneous carcinoma."

This book is the stimulating and provocative work of an independent thinker who has his own ideas and is also thoroughly conversant with the schools of dermatologic thought all over the world. As a textbook for students, however, the book has one important shortcoming, namely, uneven emphasis, which has resulted in a masterly treatment of the subject of leprosy at the expense of the discussion of such important everyday dermatoses as acne vulgaris and psoriasis. The terse style and the short sentences in which the volume is written make it ideal for the physician who desires to acquire a knowledge of dermatologic Spanish. It is so easy to read that even a beginner will have little difficulty in grasping most of it, and its pocket size and modest price will help to make it popular with North American dermatologists who are at all interested in the Spanish language.

Correspondence

ERYTHEMA MULTIFORME

To the Editor:—It was with genuine interest that I read the article "Erythema Multiforme: Its Relationship to Herpes Simplex," by Dr. Nelson Paul Anderson (ARCH. DERMAT. & SYPH. **51**:10 [Jan.] 1945) because I was the first to call attention to this relationship (*Zentralbl. f. Haut- u. Geschlechtskr.* **46**:413, 1933), one year before Forman and Whitwell. At that time I pointed out that erythema multiforme is rather frequently preceded by herpes labialis, the former appearing after an interval of about seven to ten days. I considered it at that time as a generalized herpetic exanthem. Four years later (*Zentralbl. f. Haut- u. Geschlechtskr.* **57**:12, 1937) I reported 20 cases in which this sequence was shown. Moreover, the corneas of many rabbits were inoculated with both the blood and the content of the vesicles of patients with erythema multiforme, and these materials were also injected intracisternally, without any result. On the basis of these negative findings and the fact that the multiform exanthem appears about seven to ten days after the herpetic infection, the possibility of an allergic mechanism was discussed.

Finally, I should like to add that methenamine, 1 Gm. four times daily for three consecutive days, is helpful in cutting short both herpes labialis and erythema multiforme when taken at the very beginning of their manifestations.

A picture showing erythema multiforme and herpes labialis in the same patient may be found on page 902 of my text on allergy (Allergy, New York, Grune & Stratton, Inc., 1943).

ERICH URBACH, M.D., Philadelphia.
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News and Notes

CANCELLATION OF DERMATOLOGIC MEETINGS

The session of the American Medical Association which was scheduled to be held June 18 to 22, 1945 at Philadelphia has been canceled in accord with the request of the Office of Defense Transportation.

Likewise, the Scientific Session of the 1945 meeting of the Section on Dermatology and Syphilology of the Medical Society of the State of New York, May 2 and 3, 1945, has been canceled.

DEATHS

Dr. Julius Raab died on Feb. 7, 1945, in New York.

Dr. Andrew L. Glazé died in Birmingham, Ala., on Jan. 31, 1945.

Dr. Ralph Hopkins of New Orleans died March 7, 1945.

CORRECTION

The name of Passed Assistant Surgeon Paul C. Campbell should have been included in the list of dermatologists serving in the United States Public Health Service during the present war which appeared in the December issue of the ARCHIVES.

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Bromidrosis
Callositas
Carbunculus
Chancroid
Cheilitis exfoliativa
Cheilitis glandularis
Chromidrosis
Clavus
Condylomata acuminata
Cornu
Dermatitis exfoliativa
Dermatitis herpetiformis
Dermatitis (infectious eczematoid)
Dermatitis papillaris capillitii
Dermatitis seborrhoeica
Dermatitis venenata
Dermatophytosis
Dermatophytide
Eczema
Epithelioma (basal cell)
Epithelioma (prickle-cell)
Epithelioma (multiple benign)
Erysipelas
Erythema induratum
Favus (of the scalp)
Folliculitis decalvans
Furunculosis
Granuloma fungoides
Granuloma pyogenicum
Granulosis rubra nasi
Hodgkin's disease
Hydrocystoma
Hyperidrosis
Hyperkeratosis of palms
Hypertrichosis
Impetigo
Intertrigo
Keloid
Keratosis (arsenical)
Keratosis follicularis
Keratosis seborrheica
Keratosis senilis
Kraurosis vulvae
Lepra nodosa
Leukemia cutis
Leukoplakia
Lichen chronicus (Vidal)
Lichen nitidus
Lichen planus
Lichen scrofulosorum
Lichenification
Lupus erythematosus
Lupus miliaris disseminatus
Lupus vulgaris
Lymphadenitis cutis
Lymphangioma circumscriptum
Lymphangitis (chronic or recurrent streptococcic)
Molluscum contagiosum
Mycosis fungiodes
Neurodermatitis
Nervux pilosus
Onychomycosis
Papilloma
Parapsodiasis lichenoides
Paranychia
Pernio
Pityriasis rosea
Pompholyx
Pityriasis rosea
Pompholyx
Prurigo
Pruritus
Psoriasis
Rhinophyma
Rhinoscleroma
Rosacea
Sarcoid
Sarcoma (general types)
Sarcoma (giant cell)
Sarcoma (Kaposi)
Scrofuloderma
Sebaceous cyst
Sporotrichosis
Sycosis (lupoid)
Sycosis vulgaris
Synovial lesions of the skin
Syringoma
Tinea barbae
Tinea capitis
Trichophytosis profunda
Tuberculide (various types)
Tuberculosis orificialis
Tuberculosis verrucosa cutis
Verruca plantaris
Verruca vulgaris
Xeroderma pigmentosum (keratosis and epithelioma)

**From "Diseases of the Skin"—Dr. Geo. C. Andrews, "X-Ray and Radium in the Treatment of Diseases of the Skin"—Dr. Geo. M. MacKee.*

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The schoolmaster was speaking about the Greek gods. "Momus" he said, "was the god of laughter. He wasn't a funny fellow exactly. He just made fun of people. He had a keen eye for faults, for pretense and pomp. Why, Momus even jeered at the other gods."
A little girl raised her hand and asked, "He even jeered at Venus?"
To which the teacher replied, "Oh, Venus . . . well it was this way; Momus *wanted* to jeer at Venus, but he couldn't find *anything* to jeer about, Alas, poor Momus, he looked at her and died, they say, of sheer vexation."

* * *

Venus no doubt kept her skin radiant with a fine soap of her day made with choice oils. CREAM OF SOAP*, a modern approach to soap-and-water cleansing technique offers the essential safety of hundreds of years of experience. CREAM OF SOAP*, however, is neutral; it does not alkalize the skin surface. It is *soluble* in cold, hot, hard or soft water. It cleans quickly and can safely be used even when the skin is sensitive, irritated or disturbed. For samples of CREAM OF SOAP* write, Personal Luxuries Co., 55 West 16th St., New York 11, N. Y.

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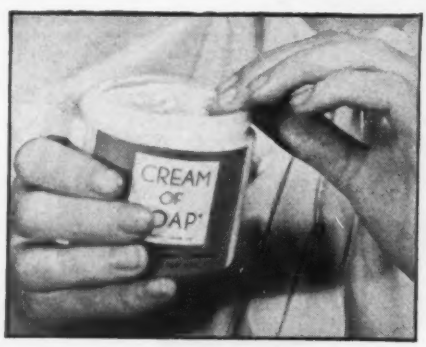

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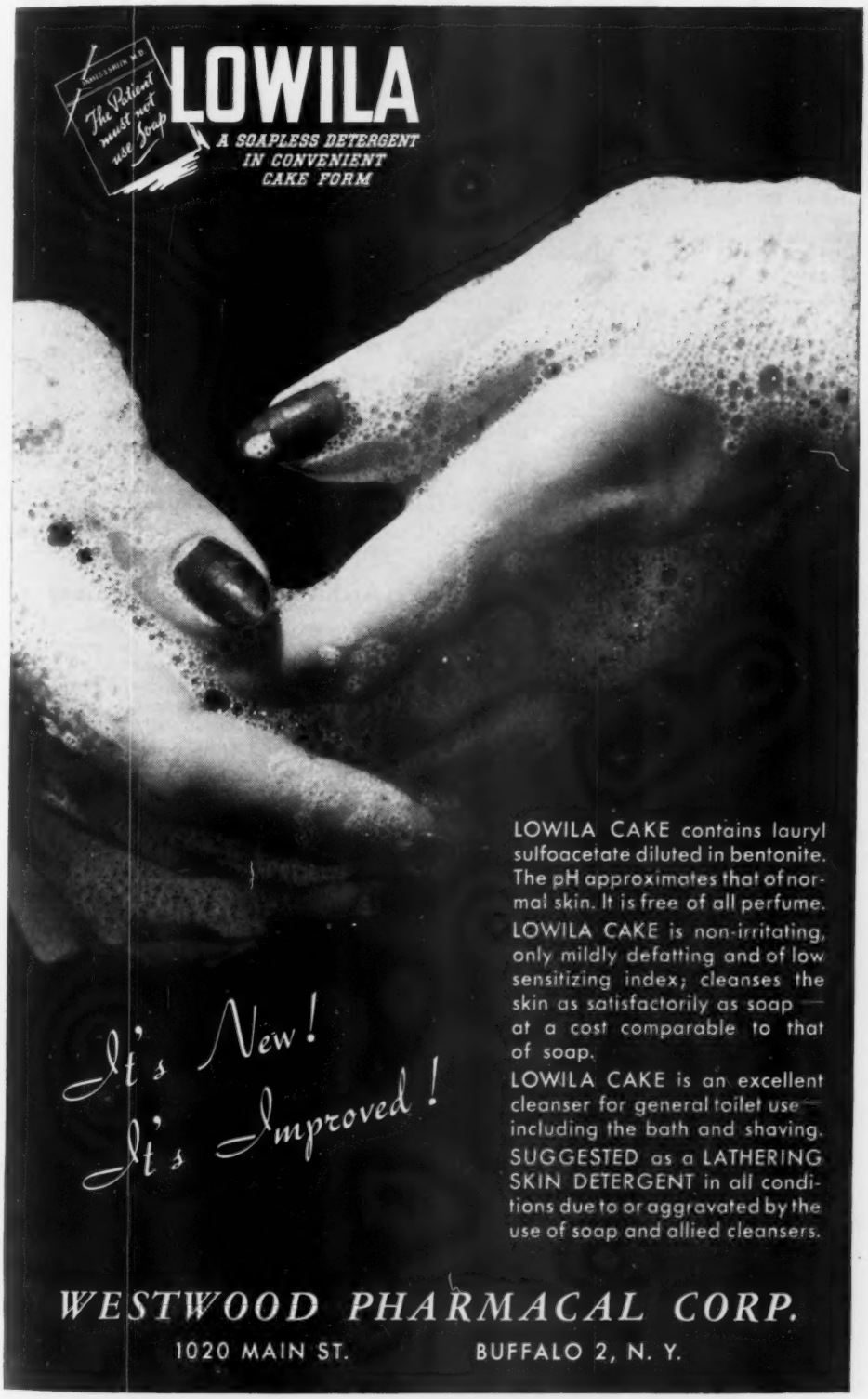
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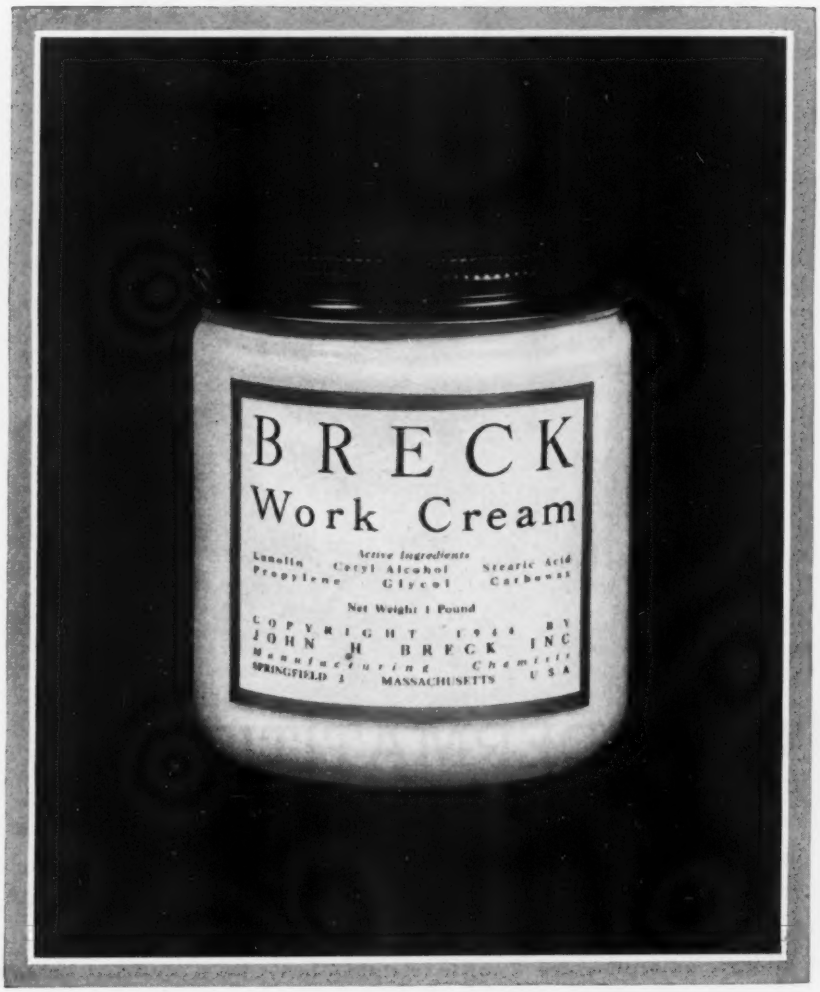

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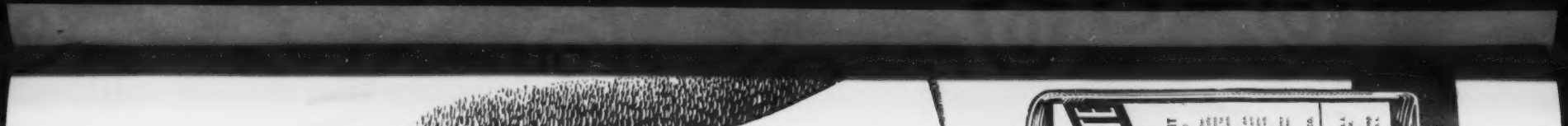
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